

No. 23-1078 (L) (2:21-cv-00316)

**IN THE  
UNITED STATES COURT OF APPEALS  
FOR THE FOURTH CIRCUIT**

B.P.J., by her next friend and mother; HEATHER JACKSON,

*Plaintiff - Appellant,*

versus

WEST VIRGINIA STATE BOARD OF EDUCATION; HARRISON  
COUNTY BOARD OF EDUCATION; WEST VIRGINIA SECONDARY  
SCHOOL ACTIVITIES COMMISSION; W. CLAYTON BURCH, in his  
official capacity as State Superintendent; DORA STUTLER, in her official  
capacity as Harrison County Superintendent,

*Defendants - Appellees.*

and

THE STATE OF WEST VIRGINIA; LAINEY ARMISTEAD,

*Intervenors - Appellees*

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On Appeal from the United States District Court for the Southern District of  
West Virginia (Charleston Division)  
The Honorable Joseph R. Goodwin, District Judge  
District Court Case No. 2:21-cv-00316

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**JOINT APPENDIX – VOLUME 4 OF 9 (JA1736-JA2152)**

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Plaintiff's Redacted Responses and Objections to Defendant-Intervenor Lainey Armistead's First Set of Requests for Admission [Armistead App. 1437-1486] in Appendix to Defendant-Intervenor's Motion for Summary Judgment	3/22/2023	529	JA4560
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<b>Document</b>	<b>Filed Date</b>	<b>ECF Number</b>	<b>Page Number</b>
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Redacted Harrison County Board of Education Document Production [Armistead App.1544-1547] [HCBOE 01265-01268] in Appendix to Defendant-Intervenor's Motion for Summary Judgment	3/22/2023	529	JA4643
Redacted Amended Birth Certificate of B.P.J.	N/A	N/A	JA4647

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IN THE UNITED STATES DISTRICT COURT  
FOR THE SOUTHERN DISTRICT OF WEST VIRGINIA

B.P.J. by her next friend and mother,	)	
HEATHER JACKSON,	)	
<i>Plaintiff,</i>	)	Civil Action No. 2:21-cv-00316
v.	)	
	)	Hon. Joseph R. Goodwin
WEST VIRGINIA STATE BOARD OF	)	
EDUCATION, HARRISON COUNTY	)	
BOARD OF EDUCATION, WEST	)	
VIRGINIA SECONDARY SCHOOL	)	
ACTIVITIES COMMISSION, W.	)	
CLAYTON BURCH in his official capacity	)	
as State Superintendent, DORA STUTLER	)	
in her official capacity as Harrison County	)	
Superintendent, and THE STATE OF	)	
WEST VIRGINIA,	)	
	)	
<i>Defendants,</i>	)	
	)	
and	)	
	)	
LAINY ARMISTEAD,	)	
	)	
<i>Defendant-</i>	)	
<i>Intervenor.</i>	)	
	)	
	)	

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**DECLARATION AND EXPERT REPORT OF DEANNA ADKINS, MD**

1. I have been retained by counsel for Plaintiff as an expert in connection with the above-captioned litigation.

2. I intend to provide my expert opinion on: (1) the nature and impact of treatment protocols for transgender youth; and (2) the different biological characteristics of sex and the ways in which they may not align within a person.



3. I have knowledge of the matters stated in this declaration and expert report and have collected and cite to relevant literature concerning the issues that arise in this litigation in the body of this declaration.

4. In preparing this declaration and expert report, I reviewed the text of House Bill 3293 at issue in this matter. I also relied on my scientific education and training, my research experience, and my knowledge of the scientific literature in the pertinent fields. The materials I have relied upon in preparing this declaration and expert report are the same types of materials that experts in my field of study regularly rely upon when forming opinions on these subjects. I may wish to supplement these opinions or the bases for them as a result of new scientific research or publications or in response to statements and issues that may arise in my area of expertise.

#### **BACKGROUND AND QUALIFICATIONS**

5. I received my medical degree from the Medical College of Georgia in 1997. I served as the Fellowship Program Director of Pediatric Endocrinology at Duke University School of Medicine for fourteen years and am currently the Director of the Duke Center for Child and Adolescent Gender Care.

6. I have been licensed to practice medicine in the state of North Carolina since 2001.

7. I have extensive experience working with children with endocrine disorders and I am an expert in the treatment of children with differences or disorders of sex development and in the treatment of children with gender dysphoria.

8. I am a member of the American Academy of Pediatrics, the North Carolina Pediatric Society, the Pediatric Endocrine Society, and The Endocrine Society. I am also a

member of the World Professional Association for Transgender Health (“WPATH”), the leading association of medical and mental health professionals in the treatment of transgender people.

9. I am the founder of the Duke Center for Child and Adolescent Gender Care (“Gender Care Clinic”), which opened in 2015. I currently serve as the director of the clinic. The Gender Care Clinic treats children and adolescents aged 7 through 22 with gender dysphoria and/or differences or disorders of sex development. I had been caring for these patients in my routine practice for many years prior to opening the clinic.

10. I currently treat approximately 400 transgender and intersex young people from North Carolina and across the Southeast at the Gender Care Clinic. I have treated approximately 500 transgender and intersex young people in my career.

11. As part of my practice, I stay familiar with the latest medical science and treatment protocols related to differences or disorders of sex development and gender dysphoria.

12. I am regularly called upon by colleagues to assist with the sex assignment of infants who cannot be classified as male or female at birth due to a range of variables in which sex-related characteristics are not completely aligned as male or female.

13. I have testified twice as an expert at trial or deposition in the past four years.

#### **TREATMENT PROTOCOLS FOR TRANSGENDER PEOPLE**

14. A transgender person has a gender identity that differs from the person’s sex assigned at birth.

15. A person’s gender identity refers to a person’s inner sense of belonging to a particular gender, such as male or female. Everyone has a gender identity.

16. Children usually become aware of their gender identity early in life.

17. For some people, their gender identity does not align with the sex they are assigned at birth. This misalignment can create significant distress, known as gender dysphoria, for people with this experience and can be felt in children as young as 2 years old.

18. A person's gender identity (regardless of whether that identity matches other sex-related characteristics) cannot be voluntarily changed, and is not undermined or altered by the existence of other sex-related characteristics that do not align with it.

19. According to the American Psychiatric Association's Diagnostic & Statistical Manual of Mental Disorders ("DSM V"), "gender dysphoria" is the diagnostic term for the condition where clinically significant distress results from the lack of congruence between a person's gender identity and the sex they are designated at birth. In order to be diagnosed with gender dysphoria, the incongruence must have persisted for at least six months and be accompanied by clinically significant distress or impairment in social, occupational, or other important areas of functioning.

20. Gender dysphoria is a serious medical condition that, if left untreated, can result in severe anxiety and depression, self-harm, and suicidality.<sup>1</sup>

21. Before receiving treatment, many people with gender dysphoria have high rates of anxiety, depression, and suicidal ideation. I have seen in my patients that without appropriate treatment, this distress impacts every aspect of life.

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<sup>1</sup> Spack NP, Edwards-Leeper L, Feldmain HA, et al. Children and adolescents with gender identity disorder referred to a pediatric medical center. *Pediatrics*. 2012; 129(3):418-425. Olson KR, Durwood L, DeMeules M, McLaughlin KA. Mental health of transgender children who are supported in their identities. *Pediatrics*. 2016; 137:1-8.

22. Experiences of discrimination and gender-minority stress associated with rejection and non-affirmation are correlated with suicidal ideation and suicidality, respectively.<sup>2</sup> The only treatment to avoid this serious harm is to recognize the gender identity of patients with gender dysphoria and follow appropriate treatment protocols to affirm gender identity and alleviate distress.

23. When appropriately treated, gender dysphoria is easily managed. I currently treat hundreds of transgender patients. All of my patients have suffered from persistent gender dysphoria, which has been alleviated through clinically appropriate treatment.

24. The Endocrine Society and the World Professional Association for Transgender Health have published widely accepted standards of care for treating gender dysphoria,<sup>3</sup> including the forthcoming Standards of Care Version 8. The precise treatment for gender dysphoria depends on each person's individualized need, and the medical standards of care differ depending on whether the treatment is for a pre-pubertal child, an adolescent, or an adult.

25. The medical treatment for gender dysphoria is to eliminate the clinically significant distress by helping a transgender person live in alignment with their gender identity. This treatment is sometimes referred to as "gender transition," "transition related care," or

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<sup>2</sup> World Prof'l Ass'n for Transgender Health, Standards of Care for the Health of Transsexual, Transgender, and Gender-Nonconforming People, Chapter Draft for Public Comment-Mental Health (8th Version, forthcoming 2022).  
<https://www.wpath.org/media/cms/Documents/SOC%20v8/SOC8%20Chapters%20for%20Public%20Comment/SOC8%20Chapter%20Draft%20for%20Public%20Comment%20-%20Mental%20Health.pdf?t=1638409644>

<sup>3</sup> Hembree WC, et al. Endocrine treatment of gender-dysphoria/gender incongruent persons: An Endocrine Society clinical practice guideline. *J Clin Endocrinol Metab* 2017; 102: 3869–3903; World Prof'l Ass'n for Transgender Health, Standards of Care for the Health of Transsexual, Transgender, and Gender-Nonconforming People (7th Version, 2011),  
[https://www.wpath.org/media/cms/Documents/SOC%20v7/SOC%20V7\\_English2012.pdf?t=1613669341](https://www.wpath.org/media/cms/Documents/SOC%20v7/SOC%20V7_English2012.pdf?t=1613669341)

“gender affirming care.” The American Academy of Pediatrics agrees that this care is safe, effective, and medically necessary for the health and wellbeing of children and adolescents suffering from gender dysphoria.<sup>4</sup>

26. The Endocrine Society Guidelines were developed through rigorous scientific processes which “followed the approach recommended by the Grading of Recommendations, Assessment, Development, and Evaluation group, an international group with expertise in the development and implementation of evidence-based guidelines.” The guidelines affirm that patients with gender dysphoria often must be treated with “a safe and effective hormone regimen that will (1) suppress endogenous sex hormone secretion determined by the person’s genetic/gonadal sex and (2) maintain sex hormone levels within the typical range for the person’s affirmed gender.”

27. Before puberty, treatment does not include any drug or surgical intervention. For this group of patients, treatment is limited to “social transition,” which means allowing a transgender child to live and be socially recognized in accordance with their gender identity. This can include allowing children to wear clothing that aligns with their gender identity, to cut or grow their hair, to use new or different names and pronouns, and to access activities in line with their gender identity instead of the sex assigned to them at birth. Social transition is a critical part of treatment of patients with gender dysphoria of all ages and it is the only treatment for pre-pubertal children. There are no known risks to social transition or to affirming

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<sup>4</sup> Rafferty J, Committee on Psychosocial Aspects of Child and Family Health, Committee on Adolescence and Section on Lesbian, Gay, Bisexual, and Transgender Health and Wellness, *Pediatrics* October 2018; 142(4): 2018-2162.

transgender youth who have been properly diagnosed with gender dysphoria by competent medical providers.

28. It undermines social transition – a critical part of gender dysphoria treatment – to force a person with gender dysphoria to live in a manner that does not align with the person's gender identity. For example, requiring a girl who is transgender to participate in single-sex activities for boys can be deeply harmful and disruptive to treatment. In the context of activities like athletics, which are typically separated by sex, I know from experience with my patients that it can be extremely harmful for transgender youth to be excluded from the team consistent with their gender identity.

29. For many transgender youth, going through endogenous puberty can cause extreme distress. Puberty blocking treatment allows transgender youth to avoid going through their endogenous puberty thereby avoiding the heightened gender dysphoria and permanent physical changes that puberty would cause.

30. Puberty blocking treatment works by pausing endogenous puberty at whatever stage it is at when the treatment begins. This has the impact of limiting the influence of a person's endogenous hormones on the body. For example, after the initiation of puberty blocking treatment, a girl who is transgender will experience none of the impacts of testosterone that would be typical if she underwent her full endogenous puberty.

31. When treating a transgender young person, when medically indicated, I prescribe puberty blocking treatment at the Tanner 2 stage of puberty. For girls who are transgender, this means that puberty is put on pause usually around the time that the patient has circulating testosterone at a level of 50 ng/dL or 1.735 nMol/L. If managed appropriately, a patient that undergoes puberty blocking treatment at this stage and then proceeds to gender-affirming

hormone therapy will never have circulating testosterone above what is typical of girls who are not transgender.

32. Under the Endocrine Society Clinical Guidelines, once a transgender youth establishes further maturity and competence to make decisions about additional treatment along with their parent and/or guardian, it may then be medically necessary and appropriate to provide gender-affirming hormone therapy to initiate puberty consistent with gender identity. For girls who are transgender, this means administering both testosterone suppressing treatment as well as estrogen to initiate hormonal puberty consistent with the patient's female gender identity. For boys who are transgender, this means administering testosterone.

33. Hormone therapy and social transition can significantly change a transgender youth's physical appearance. For example, boys who are transgender and treated with puberty blockers and gender affirming hormones will receive the same amount of testosterone during puberty that non-transgender boys generate with their testes. They will grow darker and thicker facial and body hair, experience fat distribution away from the hips, have decreased breast growth, and develop lower vocal pitch. Likewise, girls who are transgender and treated with puberty blockers and gender affirming hormones will receive the same amount of estrogen during puberty that non-transgender girls generate endogenously. They will develop breast tissue, fat will be distributed to their hips, their skin will soften, and their vocal pitch will not deepen further.

34. Treatment for transgender youth is safe, effective, and essential for their well-being. My patients who receive medically appropriate hormone therapy and who are treated consistent with their gender identity in all aspects of life experience significant improvement in their health.

35. For many patients, social transition and hormone therapy are sufficient forms of treatment for gender dysphoria. Others also need one or more forms of surgical treatment to alleviate gender dysphoria. Boys who are transgender may receive chest reconstruction surgery no earlier than 16. Genital surgery for women and men who are transgender is not performed until the person has reached the age of at least 18. Genital surgery for women who are transgender can result in a vulva and vagina—external genitalia typical of women—as well as removal of the testes, which eliminates the need for medical testosterone suppression. Because surgery does not produce ovaries, women who are transgender who have had this form of surgery typically continue to need estrogen therapy.

36. Consistent with extensive research literature, my clinical experience with my patients has been that they suffer and experience worse health outcomes when they are ostracized from their peers through policies that exclude them from spaces and activities that other girls and boys are able to participate in consistent with gender identity.

#### **SEX ASSIGNMENT AND BIOLOGICAL SEX CHARACTERISTICS**

37. HB 3293 requires school athletics to be separated based on “biological sex” defined as “an individual’s physical form as a male or female based solely on the individual’s reproductive biology and genetics at birth.” W. Va. Code §18-2-25d(b)(1). In addition to being counter to medical science, the notion of a singular “biological sex,” is inherently flawed.

38. When a child is born, a sex assignment is usually made based on the infant’s externally visible genitals. This designation is then recorded and usually becomes the sex designation listed on the infant’s birth certificate.

39. Usually, though not always, a person’s gender identity aligns with the sex designation based on the person’s genitals at birth.



40. For people who are transgender and people with differences of sex development (DSDs), however, there is not complete alignment between gender identity and physical sex-related characteristics.

41. Sex-related characteristics include external genitalia, internal reproductive organs, gender identity, chromosomes, and secondary sex characteristics. These biological sex-related characteristics do not always align as completely male or completely female in a single individual. And none of these characteristics exists in a binary. As the Endocrine Society guidelines explain, the terms “[b]iological sex, biological male or female . . . are imprecise and should be avoided.” Generally speaking, “[t]hese terms refer to physical aspects of maleness and femaleness [but] these may not be in line with each other (e.g., a person with XY chromosomes may have female-appearing genitalia).”<sup>5</sup>

42. Although we generally label infants as “male” or “female” based on observing their external genitalia at birth, external genitalia are not always clearly identifiable as typically male or typically female. And external genitalia do not account for the full spectrum of sex-related characteristics nor are they alone a proxy for how we understand sex.

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<sup>5</sup> Hembree, Wiley C., et al., Endocrine Treatment of Gender-Dysphoric/Gender-Incongruent Persons: An Endocrine Society Clinical Practice Guideline, J Clin Endocrinol Metab, Vol. 102, Issue 11, 1 November 2017, 3869–3903.; Berenbaum S., et al., Effects on gender identity of prenatal androgens and genital appearance: Evidence from girls with congenital adrenal hyperplasia. J Clin Endocrinol Metab 2003; 88(3): 1102-6; Dittmann R, et al., Congenital adrenalhyperplasia. I: Gender-related behavior and attitudes in female patients and sisters. Psychoneuroendocrinology 1990; 15(5-6): 401-20; Cohen-Kettenis P. Gender change in 46,XY persons with 5alpha-reductase-2 deficiency and 17beta-hydroxysteroid dehydrogenase-3 deficiency. Arch Sex Behav 2005; 34(4): 399-410; Reiner W, Gearhart J. Discordant sexual identity in some genetic males with cloacal exstrophy assigned to female sex at birth. N Engl J Med 2004; 350(4): 333-41.

43. In one out of every 1,000 live births, the infant's genitals are not typically male or female.

44. For people with DSDs, sex assignment at birth can involve the evaluation of the chromosomes, the external genitalia, the internal genitalia, hormonal levels, and sometimes, specific genes. There are also cases in which the appearance of the external genitalia can change at puberty as well as variations in the appearance of secondary sex characteristics that may signal a difference in sex development in a person.

45. When assignment of sex of an infant with a DSD is made at birth, that assignment is temporary until the individual can express their gender identity. In cases where the initial designation was incorrect, appropriate medical protocols instruct that the sex should be updated to align with the individual's gender identity. Similarly, if the sex designation of an infant without a DSD turns out to be inconsistent with the individual's gender identity, as for transgender people, the sex should be updated to align with the individual's gender identity.

46. Where surgery has been done on children with DSDs before the child's understanding and expression of their gender identity, significant distress can result. Many of these children have had to endure further surgeries to reverse earlier surgical intervention because their gender identity did not match the initial sex designation.

47. At least one out of every 300 people in the world has an intersex variation, meaning that the person's sex characteristic do not all align as typically male or typically female.

48. Some examples of these variations include:

- a. People with Complete Androgen Insensitivity (CAIS) have 46-XY chromosomes, and internal testes that produce testosterone, but do not have the tissue receptors that respond to testosterone or other androgens. The body,

therefore, does not develop a penis, thicker facial hair, or other secondary sex characteristics more commonly associated with men. At birth, based on the appearance of the external genitalia, people with CAIS are generally assigned female. If their testes are left in place, the body will convert the hormones into estrogen. Many do not find out they have XY chromosomes or testes until they do not start menstruating at the expected age.

- b. Androgen Insensitivity can also be partial (known as PAIS). People with PAIS have XY chromosomes, testes, and some (but still lower than typical) response to testosterone. They may be born with genitals that appear like a typical penis, a typical vulva, or somewhere in between.
- c. People with Swyer Syndrome have XY chromosomes and “streak” gonads (gonadal tissue that did not develop into testes or ovaries). Externally, a child with Swyer Syndrome usually develops a vulva. Because their gonads do not produce hormones, they will not develop most secondary sex characteristics without hormone treatment.
- d. People with Klinefelter Syndrome have 47,XXY chromosomes and internal and external genitalia typically associated with males, however, their testicles may have reduced testosterone production. This may lead to breast development, low muscle mass and body hair, and infertility.
- e. People with Turner Syndrome have 45,XO chromosomes which means they have one fewer copy of the X chromosome than expected. In utero, they form sex characteristics typically associated with females, including internal structures like a uterus and fallopian tubes, but the ovaries may degenerate

before birth (or in some cases, not until young adulthood), leading to an inability to make estrogen. Many people with Turner Syndrome will not go through puberty without hormone therapy.

- f. People with Mosaicism have different sets of chromosomes in different cells. Mosaic karyotypes happen as a result of atypical cell division early in embryonic development and could involve various combinations among XX, XY, XO, XXY, and other chromosome patterns. Configuration of gonadal tissue, genitals, and hormone production and response can all vary.
- g. People with ovotestes (sometimes known as Ovotesticular DSD) have gonads that contain both ovarian and testicular tissue. Their chromosomes may be XX, XY, or Mosaic. Genital appearance at birth can be male-typical, female-typical, or something else.
- h. Congenital Adrenal Hyperplasia (CAH) can occur in people with XX or XY chromosomes. People with CAH and 46,XX chromosomes have ovaries, a uterus, and a higher-than-typical production of androgens in utero that can lead to the development of genital differences at birth – such as an enlarged clitoris that may look like a penis, or the lack of a vaginal opening. CAH can also cause the development of typically masculine features like increased muscle mass and body hair.
- i. People with 5-alpha reductase deficiency (5-ARD) have XY chromosomes, but they have an enzyme deficiency that inhibits conversion of testosterone to dihydrotestosterone (the active form of testosterone) to varying degrees. This can impact genital development, and at birth, people with 5-ARD may have

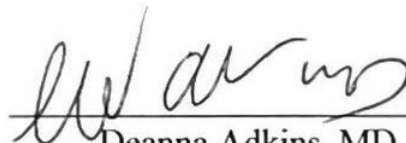
genitals that appear female-typical, neither male-typical nor female-typical, or mostly male-typical with differences like hypospadias (where the urethra is located somewhere other than the tip of the penis). During puberty, hormonal changes allow them to make more dihydrotestosterone, causing the development of some secondary sex characteristics typically associated with males, as well as genital masculinization.

49. As the examples above underscore, from a medical perspective, chromosomes, reproductive anatomy, and endogenous hormones alone do not determine a person's sex, nor does a single sex-related characteristic.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed on

1/21/2022

  
Deanna Adkins, MD

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## DUKE UNIVERSITY MEDICAL CENTER

## CURRICULUM VITAE

Date Prepared: January 21, 2022

Name:	Deanna Adkins, BS, MD
Primary Academic Appointment:	Associate Professor of Pediatrics, Career Track
Primary Academic Department :	Pediatrics
Secondary Appointment :	n/a
Present Academic Rank and Title :	Associate Professor
Date and Rank of First Duke Faculty Appointment:	July 1, 2004 Clinical Associate
Medical Licensure:	Since March 15, 2001
License #:	200100207 NC
Date:	06/29/2022 expires
Specialty Certification(s) and Dates:	10/16/2001-2018 General Pediatrics 8/18/2003 and current-Pediatric Endocrinology
Date of Birth:	06/29/1970
Place:	Albany, GA USA
Citizen of:	USA
Visa Status:	n/a

Education	Institution	Date (Year)	Degree
High School	Tift County High School	1988	Graduated with High Honors
College	Georgia Institute of Technology	1993	BS Applied Biology/Genetics High Honors

<b>Education</b>	<b>Institution</b>	<b>Date (Year)</b>	<b>Degree</b>
Graduate or Professional School	Medical College of Georgia	1997	MD

### **Professional Training and Academic Career**

<b>Institution</b>	<b>Position/Title</b>	<b>Dates</b>
University of North Carolina Hospitals, Chapel Hill, North Carolina	Pediatrics Resident	1997-2000
University of North Carolina Hospitals, Chapel Hill, North Carolina	Pediatric Endocrine Fellow	2000-2004
Duke University Medical Center, Durham, North Carolina	Clinical Associate/Medical Instructor	2004-2008
Duke University Medical Center, Durham, North Carolina	Assistant Professor Track IV	2008-2020
Duke University Medical Center, Durham, North Carolina	Fellowship Program Director Pediatric Endocrinology-Associate PD-	2008-2010 & 2014-12/2019 2010-2014
Duke University Medical Center, Durham, North Carolina	Director Duke Child and Adolescent Gender Care Clinic	July 2015-present
Duke University Medical Center, Durham, North Carolina	Medical Director-Duke Children's Specialty of Raleigh	3/2017-1/2022
Duke University Medical Center, Durham, North Carolina	Associate Professor Pediatrics	1/2020-present
Duke University Medical Center, Durham, North Carolina	Co-Director Duke Sexual and Gender Health and Wellness Program	10/2021-present

**Publications**Refereed JournalsOriginal Manuscripts:

1. Zeger M, **Adkins D**, Fordham LA, White KE, Schoenau E, Rauch F, Loechner KJ. "Hypophosphatemic rickets in opsismodysplasia," J Pediatr Endocrinol Metab. 2007 Jan;20(1):79-86. PMID: 17315533
2. Worley G, Crissman BG, Cadogan E, Milleson C, **Adkins DW**, Kishnani PS "Down Syndrome Disintegrative Disorder: New-Onset Autistic Regression, Dementia, and Insomnia in Older Children and Adolescents With Down Syndrome". J Child Neurol. 2015 Aug;30(9):1147-52. doi: 10.1177/0883073814554654. Epub 2014 Nov 3. PMID: 25367918
3. Tejawani R, Jiang R, Wolf S, **Adkins DW**, Young BJ, Alkazemi M, Wiener JS, Pomann GM, Purves JT, Routh JC, "Contemporary Demographic, Treatment, and Geographic Distribution Patterns for Disorders of Sex Development". Clin Pediatr (Phila). 2017 Jul 1;9922817722013. doi: 10.1177/0009922817722013. PMID: 28758411
4. Lapinski J1, Covas T2, Perkins JM3, Russell K4, **Adkins D** 5, Coffigny MC6, Hull S7. "Best Practices in Transgender Health: A Clinician's Guide Prim Care". 2018 Dec;45(4):687-703. doi: 10.1016/j.pop.2018.07.007. Epub 2018 Oct 5. PMID: 30401350 DOI: 10.1016/j.pop.2018.07.007
5. Paula Trief, Nicole Foster, Naomi Chaytor, Marisa Hilliard, Julie Kittelsrud, Sarah Jaser, Shideh Majidi, Sarah Corathers, Suzan Bzdick, **Adkins DW**, Ruth Weinstock; "Longitudinal Changes in Depression Symptoms and Glycemia in Adults with Type 1 Diabetes", Diabetes Care; 2019 Jul;42(7):1194-1201. doi: 10.2337/dc18-2441. Epub 2019 May; PMID: 31221694
6. Mann, Courtney M., Kristen Russell, Alexy Hernandez, Nicole Lucas, Erik Savereide, Dane R. Whicker, **Deanna W. Adkins**, Nancy L. Zucker, Raye Dooley, and Bryce B. Reeve. "Concept elicitation for the development of quality measures in transgender health." In *Quality of Life Research*, 28:S104–S104. SPRINGER, 2019.

7. M. Hassan Alkazemi, MD, MS, Leigh Nicholl, MS, Ashley W. Johnston, MD, Steven Wolf, MS, Gina-Maria Pomann, PhD, Diane Meglin, MSW, **Deanna Adkins, MD**, Jonathan C. Routh, MD, MPH; Community Perspectives on Difference of Sex Development (DSD) Diagnoses: a Crowdsourced Survey, 2020 Jun;16(3):384.e1-384.e8. doi: 10.1016/j.jpuro.2020.03.023. Epub 2020 Apr 27. PMID: 32409277
8. McGuire H, Frey L, Woodcock LR, Dake E, Carl A, Matthews D, Russell K, **Adkins DA** "Differences in Patient and Parent Informant Reports of Depression and Anxiety Symptoms in a Clinical Sample of Transgender and Gender Diverse Youth" *LGBT Health* 2021-LGBT Health. Aug-Sep 2021;8(6):404-411. doi: 10.1089/lgbt.2020.0478. Epub 2021 Aug 12

#### Non Author publications

1. Turner DA, Curran ML, Myers A, Hsu DC, Kesselheim JC, Carraccio CL and the Steering Committee of the Subspecialty Pediatrics Investigator Network (SPIN). Validity of Level of Supervision Scales for Assessing Pediatric Fellows on the Common Pediatric Subspecialty Entrustable Professional Activities. *Acad Med*. 2017 Jul 11. doi: 10.1097/ACM.0000000000001820. PMID:28700462
2. Mink R, Carraccio C, High P, Dammann C, McGann K, Kesselheim J, Herman B. Creating the Subspecialty Pediatrics Investigator Network (SPIN). Creating the Subspecialty Pediatrics Investigator Network Richard Mink, MD, MACM1, Alan Schwartz, PhD2, Carol Carraccio, MD, MA3, Pamela High, MD4, Christiane Dammann, MD5, Kathleen A. McGann, MD6, Jennifer Kesselheim, MD, EdM7, *J Peds* 2018 Jan;192:3-4.e2. PMID: 29246355 DOI: 10.1016/j.jpeds.2017.09.079
3. Erratum 2018. PMID: 29246355 DOI: [10.1016/j.jpeds.2017.09.079](https://doi.org/10.1016/j.jpeds.2017.09.079)
4. Mink RB<sup>1</sup>, Myers AL, Turner DA, Carraccio CL. Competencies, Milestones, and a Level of Supervision Scale for Entrustable Professional Activities for Scholarship. *Acad Med*. 2018 Jul 10. doi: 10.1097/ACM.0000000000002353. [Epub ahead of print] PMID: 29995669 DOI:[10.1097/ACM.0000000000002353](https://doi.org/10.1097/ACM.0000000000002353) Mink RB, Schwartz A, Herman BE,

#### Editorials

- a. Editorial Charlotte News and Observer-“**NC pediatric specialists say HB2 ‘flawed’ and ‘harmful,’ call for repeal**”; April 18, 2016; authors: Deanna

Adkins, Ali Calikoglu, Nina Jain, Michael Freemark, Nancie MacIver, Robert Benjamin, Beth Sandberg, etc.

- b. Editorial Raleigh News and Observer-**"Beverly Gray: Repeal HB2"** May 2016: authors Beverly Gray, Deanna Adkins, Judy Sidenstein, Jonathan Routh, Haywood Brown, Clayton Afonso, William Meyer, Kristen Russell, Caroline Duke, Nancy Zucker, Kevin Weinfurt, Jennifer St. Claire, Angela Annas, Katherine Keitcher

#### Chapters in Books

1. Endocrinology Chapter writer and editor in **Fetal and Neonatal Physiology for the Advanced Practice Nurse**; Editors: Amy Jnah DNP, NNP-BC, Andrea Nicole Trembath MD, MPH, FAAP. December 21, 2018 ISBN-10 0826157319
2. Chapter in **Dental Clinics of North America Adolescent Oral Health Edition** Understanding and Caring for LGBTQ+ Youth for the Oral Health Care Provider; Authors Joshua Raisin, DDS, Deanna Adkins MD, Scott B. Schwartz, DDS, MPH. 2021
3. Intersex Identity and Gender Assignment; **Encyclopedia of Adolescent Health**; Editor Brian Eichner, MD; Author Deanna Adkins MD 2021-pending

#### Selected Abstracts:

1. Redding-Lallinger RC, **Adkins DW**, Gray N: The use of diaries in the study of priapism in sickle cell disease. Poster Abstract in Blood November 2003
2. **Adkins, D.W.** and Calikoglu, A.S.: Delayed puberty due to isolated FSH deficiency in a male. Pediatric Research Suppl. 51: Abstract #690. page 118A, 2004
3. Zeger, M.P.D., **Adkins, D.W.**, White, K., Loechner, K.L.: Opsismodysplasia and Hypophosphatemic Rickets. Pediatric Research Suppl.-from PAS 2005
4. Kellee M. Miller<sup>1</sup>, David M. Maahs<sup>2</sup>, **Deanna W. Adkins**<sup>3</sup>, Sureka Bollepalli<sup>4</sup>, Larry A. Fox<sup>5</sup>, Joanne M. Hathway<sup>6</sup>, Andrea K. Steck<sup>2</sup>, Roy W. Beck<sup>1</sup> and Maria J. Redondo<sup>7</sup> for the T1D Exchange Clinic Network; Twins Concordant for Type 1 Diabetes in the T1D Exchange -poster at ADA scientific sessions 6/2014
5. Laura Page, MD; Benjamin Mouser, MD; Kelly Mason, MD; Richard L. Auten, MD; **Deanna Adkins, MD** CHOLESTEROL SUPPLEMENTATION IN SMITH-LEMLI-OPITZ: A Case of Treatment During Neonatal Critical Illness; - poster 06/2014
6. Lydia Snyder, **MD, Deanna Adkins, MD**, Ali Calikoglu, MD; Celiac Disease and Type 1 Diabetes: Evening of Scholarship UNC Chapel Hill 3/2015 poster
7. **Deanna W. Adkins, MD**, Kristen Russell, LCSW, Dane Whicker, PhD, Nancy Zucker, Ph. D: Departments of Pediatrics and Psychiatry, Duke University Medical Center; Evaluation of Eating Disturbance and Body Image Disturbance in the Trans Youth Population; WPATH International Scientific Meeting June 2016; Amsterdam, The Netherlands
8. Rohit Tejwani, **Deanna Adkins**, Brian J. Young, Muhammad H. Alkazemi, Steven Wolf<sup>3</sup>, John S. Wiener, J. Todd Purves, and Jonathan C. Routh; Contemporary Demographic and

- Treatment Patterns for Newborns Diagnosed with Disorders of Sex Development; Poster presentation at AUA meeting 2016
9. S.A. Johnson, **D.W. Adkins**, Case Report: The Co-diagnosis of Hypopituitarism with Klinefelter in a patient with short stature; Pediatric Academic Society Meeting 2018
  10. Lapinski J, Dooley R, Russell K, Whicker D, Gray, B, **Adkins DW**; **Title:** Developing a Pediatric Gender Care Clinic at a Major Medical Setting in the South; Workshop Philadelphia Trans Wellness Conference 2018
  11. Jessica Lapinski, DO, Deanna Adkins, MD, Tiffany Covas, MD, MPH, Kristen Russell, MSW, LCSW; An Interdisciplinary Approach to Full Spectrum Transgender Care; WPATH Conference Buenos Aires, Argentina, November 3, 2018
  12. Leigh Spivey, MS, Nancy Zucker, PhD, Erik Severiede, B.S., Kristen Russell, LCSW, Deanna Adkins, MD; USPATH Washington, DC Sept. 2019. Platform presentation; "Psychological Distress Among Clinically Referred Transgender Adolescents: A latent Profile Analysis"

#### Non-Refereed Publications

- i. Print
  - i. Editorial Charlotte News and Observer-"**NC pediatric specialists say HB2 'flawed' and 'harmful,' call for repeal**"; April 18, 2016
  - ii. Editorial News and Observer-HB2 May 2016 -"**Beverly Gray: Repeal HB2**" May 2016
- ii. Digital
  - i. Supporting and Caring for Transgender Children-HRC guide 2017
  - ii. Initial endocrine workup and referral guidelines for primary care Providers- Pediatric Endocrine Society Education Committee Website Publication
  - iii. Only Human Podcast August 2, 2016;  
<https://www.wnycstudios.org/podcasts/onlyhuman/episodes/id-rather-have-living-son-dead-daughter>
- iii. Media and Community Interviews
  - i. Greensboro News and Record Community Forum October 2017-*Transgender Panel Moderator*
  - ii. Playmakers Repertory Company-Chapel Hill: *Draw the Circle* Transgender Community Panel 2017
  - iii. Duke Alumni Magazine
  - iv. Duke Stories
  - v. DukeMed Alumni Magazine
  - vi. NPR Podcast Only Human piece on caring for transgender youth and follow up piece 1 year later
  - vii. ABC11, WRAL, WNCN News Coverage
  - viii. News and Observer: Charlotte and Raleigh
  - ix. Duke Chronicle and Daily Tarheel Article
  - x. Huffington Post Article
  - xi. <https://www.businessinsider.com/the-olympics-uses-testosterone-to-treat-trans-athletes-like-cheaters-2021-7>

- xii. <https://www.wral.com/top-transgender-doctor-warns-teen-treatment-ban-could-be-deadly/19618762/>
- xiii. <http://www.ncpolicywatch.com/2021/04/07/experts-bills-targeting-trans-people-get-the-science-wrong/>

#### Published Scientific Reviews for Mass Distribution

#### Position and Background Papers

#### Other Publications

#### **Editorial Experience**

Editorial Boards

Ad Hoc scientific review journals

Hormone Research, Lancet, NC Medical journal, Journal of Pediatrics, Pediatrics, Transgender Health, International Journal of Pediatric Endocrinology, Journal of Adolescent Health

#### **Consultant Appointments**

North Carolina Newborn Screening Committee

Human Rights Campaign Transgender Youth Advisory Board

#### **Scholarly Societies**

#### **Professional Awards and Special Recognitions**

ESPE Fellows Summer School, 2001

NIH Loan Repayment Program Recipient

Lawson Wilkins AstraZeneca Research Fellow,  
2003-2004

HEI 2017 Leaders in LGBTQ Healthcare  
Equality

Inside Out Durham Appreciation Award

Duke Health System Diversity and Inclusion  
Award January 2018

America's Top Doctor's 2020, 2021

Duke Health System Diversity and Inclusion  
Award January 2020- CDHD Course Team

Teaching for Equity Fellow 2021

**Organizations and Participation**

<b>Organization</b>	<b>Role</b>	<b>Dates</b>
American Academy of Pediatrics	Member Council on Information Technology Member Reviewer COCIT Member Section on Endocrinology	1998 to present    2004 to present
Pediatric Endocrine Society	Member Member Education Committee SIG member-Transgender, DSD, liaison to Advocacy SIG Writer Web Publication for Pediatricians	2000 to present
NC Pediatric Society	Member	1998 to present
Endocrine Society	Member	2000 to present
WPATH-International Transgender Society	Member	2014 to present

**External Support**

<u>Approximate Duration</u>	<u>PI</u>	<u>% Effort</u>	<u>Purpose</u>	<u>Amount Duration</u>
<u>Past</u>	<u>JAEB Center- Deanna Adkins</u>	0.5%	<u>Type 1 diabetes research</u>	<u>\$ 5yr</u>
<u>Past</u>	<u>Josiah Trent Foundation Grant-Deanna Adkins</u>	0.5%	<u>Transgender and eating disorder research</u>	<u>\$5000 3 yr</u>
<u>Pending: Submitted</u>	<u>NIH-Kate Whetten</u>	0.1%	<u>Analysis of TransgenderHealth in Adolescents in Rural Africa, India, and Thailand</u>	<u>Consultant</u>



<u>Approximate Duration</u>	<u>PI</u>	<u>% Effort</u>	<u>Purpose</u>	<u>Amount Duration</u>
<u>Re-Submitting June 2021</u>	<u>NIH R21 Deanna Adkins</u>	2%	Development of New Gender Dysphoria Measures in Youth	<u>Co PI</u>
<u>ReSubmitting June 2021</u>	<u>NIH R21 Sarah Legrand</u>	2%	Glow and Grow	<u>consultant</u>
<u>Submitted November 2020</u>	<u>CMS-Deanna Adkins and Rob Benjamin</u>	1%	<u>Innovations Grant</u>	<u>Co PI</u>
<u>Submitted Sept 2020</u>	<u>Kate Whetten</u>	2%	SAHMSA Grant for development of multidisciplinary LGBTQ education	<u>Co PI</u>
<u>Gifts</u>	<u>Private Family</u>			

### Mentoring Activities

Faculty	
Fellows, Doctoral, Post docs	<b>Nancie MacIver-fellow</b>
	<b>Dorothee Newbern-fellow</b>
	<b>Krystal Irizarry-fellow</b>
	<b>Kelly Mason-fellow</b>
	<b>Laura Page-fellow</b>
	<b>Elizabeth Sandberg fellow UNC</b>
	<b>Dane Whicker-psychology post doc</b>
	<b>Leigh Spivey-psychology post doc</b>
	<b>Joey Honeycutt, Chaplain Intern</b>
	<b>Kathryn Blew-research mentor</b>
Residents	<b>Yung-Ping Chin-mentor</b>
	<b>Kristen Moryan-mentor</b>
	<b>Jessica Lapinski-mentor</b>
	<b>Kathryn Blew-research mentor</b>
	<b>Matthew Pizzuto, Briana Scott-Coach, Laura Hampton Coach</b>

Medical students	<b>Tulsi Patel-continuity clinic mentor</b> <b>Sonali Biswas-research mentor 3<sup>rd</sup> year project</b> <b>Katha Desai-research mentor 3<sup>rd</sup> year project</b>
Undergraduates	<b>Erik Severeide-Duke University</b> <b>Lindsay Carey-Dickinson College</b> <b>Jeremy Gottlieb-Duke University</b> <b>Jay Zussman-Duke University</b> <b>Beles Abebe-Duke University</b>
High School Students	<b>Aeryn Colton-Intern Apex High School</b>
Graduate Student MBS program	<b>Nicholas Hastings</b>
UNC Gillings School of Public Health MPH students	<b>Lauren Frey, Emily Dake, Alexandra Carle, Lindsay Woodcock, Hunter McGuire</b>
Nurse Practitioners	<b>ECU, Duke-multiple</b>
DNP candidates	<b>Ethan Cicero-PhD committee member</b> <b>Amanda Lund-PhD committee member</b>
Pediatric Dental Fellow UNC	<b>Joshua Raisin-research associate</b>

**Education / Teaching Activities****Didactic classes**High School

- c. Cary Academy: Work Experience Program 2021

Undergraduate

1. Creating Excellence and Ambulatory Nursing 2008
2. Profile in Sexuality Research Series at Duke CGSD 2016
3. Duke School of Nursing BSN Course on Sexual and Gender Health guest lecturer: fall 2017, spring 2018, fall 2018, spring 2019, fall 2019, spring 2020, fall 2020, spring 2021, fall 2021
4. Duke School of Nursing Lecture on Transgender Care-recorded for reuse
5. Duke Physician Assistant Program guest lecturer; fall 2017, spring 2018
6. Duke Global Health Course guest lecturer fall 2016
7. Duke Neuroscience course on Gender and Sex guest lecturer fall 2016
8. Duke Ethics Interest group guest lecturer fall 2018, 2020
9. Duke EMS group lecture fall 2018
10. Duke Physician Assistant Program LGBTQ+ Rotation Educator 2019 to present
11. Global Health Sexual and Gender Minority Seminar Lecturer 2020

**UME:**

1. Cultural Determinants of Health and Health Disparities Course: Facilitator and developed one class; 2017-18 and 2018-19, 2019-20, 2020-21, 2021-22; Steering Committee member for course development
2. UNC School of Medicine Lecturer for LGBTQ Health series 2016-recorded for reuse
3. Duke Pediatrics Interest Group lecture Nov 2020
4. Duke Med Pediatrics Interest Group lecture fall 2018, 2020
5. Lecturer Body and Disease Course MS1 2019, 2020, 2021 Clinical Correlation Differences of Sex Development
6. Lecturer Body and Disease Course MS1 2020, 2021 Transgender Medicine
7. Lecture on Cancer in Transgender and Intersex Individuals April 14, 2021 Mount Sinai School of Medicine
8. Lecture on Transgender Medicine Univ. of Tenn. Health Science Center School of Medicine May 7, 2021

**Graduate School Courses:**

1. Master of Biomedical Science Program-guest lecturer on Transgender Medicine fall 2016
2. School of Nursing Graduate Intensive Course Lecturer on Sexual and Gender Health; fall 2017, spring 2018, fall 2018, spring 2019, Fall 2019
3. Fuqua School of Business Med Pride Panel and presentation fall 2017
4. Master of Biomedical Science Program Mentor 2019-2020
5. Endocrinology for Nurse Practitioners Duke Neonatal Nurse Practitioner Program August 2021

**DUHS Employee Education**

1. Annual Duke Human Resources Lunch and Learn on Gender Diversity 2016, 2017, 2018
2. Over 100 lectures across the institution on gender including CHC front desk/nursing staff, hospital wide social work/case management, radiology, PDC clinic front desk/nursing staff
3. Steering Committee for Sexual and Gender Identity Epic Module development and Educational module development
4. DCRI Pride invited speaker
5. Duke Children's staff update 2021

**GME:**

1. Adult Endocrinology Fellows every year on growth and/or gender
2. Pediatric Residency Noon conferences on Growth and Gender-yearly
3. Reproductive Endocrinology Noon Conferences every 2 to 3 years
4. Psychiatry Noon Conferences periodically
5. Family Practice Noon Conference periodically
6. Pediatric Endocrine Fellow lectures twice a year or more
7. Pediatrics grand rounds: Vitamin D, Type 2 diabetes, Pubertal Development, Gender Diverse Youth

8. Duke Urology Grand Rounds 2016
9. Duke Ob/Gyn Grand Rounds 2017
10. Webinar for Arkansas Children's Hospital on transgender care 2018
11. Reproductive Challenges for Transgender people-Reproductive Endocrinology-2020
12. Metabolic Bone Disease in Neonates-NICU fellows 2019
13. Duke Psychiatry Grand Rounds 2017
14. Duke Pathology Grand Rounds fall 2020
15. Duke Family Medicine Community Rotation Educator 2019 to present
16. NC NAPNAP Symposium Keynote Speaker October 10, 2020
17. Duke Internal Medicine LEADS program speaker; Transgender Care 8/3/2021
18. Equity and Social Justice Webinar: Clinical Advocacy and Care of Transgender and Gender Diverse Youth October 27, 2021Harvard Equity and Social Justice Webinar

#### **Development of Courses Educational programs**

1. Pituitary Day October 2019-full day multispecialty seminar for caregivers of patients with hypopituitarism-Organized and developed the curriculum
2. Development of Gender Diversity Education for Health System education
3. Steering Committee for Cultural Determinants and Health Disparities Course
4. Helping to Adapt Resident Coaching Program to Pediatric Fellowships
5. Developed half day course for Duke Student Health on Care of the Gender Diverse Student with multiple disciplines included
6. Course Director: American Diabetes Association Camp Carolina Trails rotation for fellows and residents: 2009, 2011 – 2019
7. Medical Education for Camp Morris 2019, 2021

#### **Development of Assessment Tools and Methods**

1. Currently under development with Population Health Sciences-method to assess gender dysphoria; received Brief High Intensity Production (BHIP) grant for this collaboration; NIH grant Submitted March 2020; I am writing the portion of grant giving background on the population and the need for better measures.
2. Collaborating with the Duke Chaplain group to develop a spiritual assessment tool for gender diverse children and their families. Completed 2019

#### **Educational leadership roles**

1. Fellowship Program Director Pediatric Endocrinology 2008-2019
2. Course Director: American Diabetes Association Camp Carolina Trails rotation for fellows and residents: 2009, 2011 to 2019

#### **Educational Research**

1. Working with coaching program for residents modified and applied in pediatric fellows
2. Worked with the Council on Pediatric Subspecialties EPA study

#### **Invited Lectures and Presentations**

1. NC Peds Conference: Pubertal Development 2016

2. Trent Center for Ethics Lecture May 2017: Transgender Medicine: a Wealth of Ethical Issues
3. Visiting Professorship: ECU Brody School of Medicine Invited Professor October 2017
4. College of Diplomates-pediatric dentistry society-Webinar on transgender care 4/1/2020
5. NAPNAP keynote speaker Annual Meeting October 2020
6. Wake County Duke CME program: Type 2 diabetes treatments in pediatrics 2019
7. Lecture on Cancer in Transgender and Intersex Individuals April 14, 2021 Mount Sinai School of Medicine
8. Lecture on Transgender Medicine Univ. of Tenn. Health Science Center School of Medicine May 7, 2021
9. Equity and Social Justice Webinar: Clinical Advocacy and Care of Transgender and Gender Diverse Youth October 27, 2021 Harvard Equity and Social Justice Webinar

#### **International Meetings**

1. WPATH Amsterdam 2016
2. WPATH Buenos Aires 2018

#### **National Scientific Meetings (invited)**

1. Transgender SIG Developing a Patient Registry
2. Patient Advocacy for Transgender Youth Philadelphia 2018

#### **Instructional Courses, Workshops, Symposiums (National)**

1. Time to Thrive Arkansas Children's Hospital April 2018
2. National Transgender Health Summit UCSF Jan 2018: Providers as Advocates Workshop
3. Magic Foundation-Chicago, IL Annual Speaker on Precocious Puberty, Adrenal Insufficiency, and Growth Hormone at National Conference 2016, 2017, 2019, 2020, 2021
4. The Seminar-Fort Lauderdale, FL Invited Speaker on Care of Transgender Youth 2017

#### **Regional Presentations and Posters**

- a. North Carolina Pediatric Society: Pubertal Development Presentation–Pinehurst, NC 2017
- b. North Carolina Psychiatric Association: Caring for Transgender Children Presentation and Workshop on key concepts in care of transgender child-Asheville, NC 2017
- c. ECU Campus Health Presentation Caring for Transgender Patients 2018
- d. Radiology Technology Symposium Presentation on Caring for Transgender Patients 2018
- e. Duke CME in Wake County-Update on Type 2 Diabetes Treatments Feb 2019
- f. Hilton Head Pediatric CME Course-Update on Type 2 Diabetes, Short Stature, and Caring for Transgender Patients June 2019
- g. Wake County Duke Pediatrics CME Type 2 diabetes treatments Feb 2019
- h. NAPNAP Annual Meeting Keynote Speaker 2020

- i. Sexual and Gender Minorities Research Symposium Duke Feb 2020; speaker and organizer

### **Local Presentations**

1. Grand Rounds: 2016 to present-Duke Pediatrics twice, Moses Cones Pediatrics, ECU Ob/Gyn, Duke Ob/Gyn, Duke Psychiatry, Duke Urology, Duke Adult Endocrinology, Duke Pathology
2. Prior to 2016-Rex Grand rounds: Salt and Water balance, New treatments in Pediatric Diabetes, Adrenal Insufficiency, Duke peds grand rounds Bone Health, Type 2 Diabetes Mellitus
3. Duke Women's Weekend 2018 hosted by Duke Alumni Association
4. NCCAN Social Work Training 2016
5. NAPNAP lecture 2016 and 2018 and 2020
6. Profiles in Sexuality Research Presentation at Duke Center for Sexual and Gender Diversity 2017
7. Duke LGBTQ Alumni Weekend Presentation 2017
8. UNC Chapel Hill Campus Health Presentation 2018
9. Duke Student Health Presentation 2017, 2018, 2019 (workshop)

### **Clinical Activity**

1. Duke Consultative Services of Raleigh-2.5 days per week in endocrinology and diabetes
2. Duke Child and Adolescent Gender Care Clinic 1.2 day per week at the CHC
3. Inpatient Consult Service Pediatric Endocrinology 1 week per month

### Administrative and Leadership Positions

1. Medical Director Duke Children's and WakeMed Consultative Services of Raleigh
2. Director Duke Child and Adolescent Gender Care Clinic
3. Pediatric Endocrinology Fellowship Program Director 2008-2019

### Committees

1. Graduate Medical Education Committee-2008-2019
2. School of Medicine Sexual and Gender Diversity Council 2015 to present
3. Pediatrics Clinical Practice Committee-2015? To present
4. Pediatric Diversity and Inclusion Committee

### Community

1. Test proctor local schools
2. Guest lecture GSA multiple years
3. Diabetes Camp over 10 years
4. 100 Women who give a hoot
5. Collaborated to bring "Becoming Johanna" to Duke along with multiple screenings with the director and the lead actor
6. Teddy Bear Hospital volunteer both years

1                   IN THE UNITED STATES DISTRICT COURT  
2                   FOR THE SOUTHERN DISTRICT OF WEST VIRGINIA  
3                               \*     \*     \*     \*     \*     \*  
4    B.P.J., by her next friend and               \*  
5    mother, HEATHER JACKSON,                   \*  
6           Plaintiffs                               \* Case No.  
7           vs.                                       \* 2:21-CV-00316  
8    WEST VIRGINIA STATE BOARD OF               \*  
9    EDUCATION, HARRISON COUNTY BOARD OF\*  
10   EDUCATION, WEST VIRGINIA SECONDARY \*  
11   SCHOOL ACTIVITIES COMMISSION, W.       \*  
12   CLAYTON BURCH in his official            \*  
13   capacity as State Superintendent,        \*  
14   and DORA STUTLER in her official        \*  
15   capacity as Harrison County               \*  
16   Superintendent, PATRICK MORRISEY in\*

17  
18                   VIDEOTAPED DEPOSITION OF  
19                   DEANNA ADKINS, M.D.  
20                   March 16, 2022  
21

22                   Any reproduction of this transcript  
23                   is prohibited without authorization  
24                   by the certifying agency.

1 his official capacity as Attorney \*

2 General, and THE STATE OF WEST \*

3 VIRGINIA, \*

4 Defendants \*

5 \* \* \* \* \*

6

7 VIDEOTAPED DEPOSITION OF

8 DEANNA ADKINS, M.D.

9 March 16, 2022

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DEPOSITION  
  
OF  
  
DEANNA ADKINS, M.D., taken on behalf of the Intervenor  
herein, pursuant to the Rules of Civil Procedure, taken  
before me, the undersigned, Lacey C. Scott a Court  
Reporter and Notary Public in and for the Commonwealth  
of Pennsylvania, taken via videoconference, on  
Wednesday, March 16, 2022 at 9:06 a.m.

A P P E A R A N C E S

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## S T I P U L A T I O N

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(It is hereby stipulated and agreed by and between  
counsel for the respective parties that reading,  
signing, sealing, certification and filing are not not  
waived.)  
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## P R O C E E D I N G S

-----  
VIDEOGRAPHER: Good morning. We're now  
on the record. My name is Jacob Stock. I'm a Certified  
Legal Video Specialist employed by Sargent's Court  
Reporting Services. Today's date is March 16th, 2022  
and the current time is 9:06 a.m. Eastern Standard Time.  
This video is being taken place remotely by video  
conference. The caption of this case is in the United  
States District Court for the Southern District of West  
Virginia, Charleston Division, B.P.J., et al. V. West  
Virginia State Board of Education, et al. Civil Action  
Number 2:21-CV-00316. The name of the witness is Deanna  
Adkins. Will the attorney present state their names and  
the parties they represent for the record?

ATTORNEY BROOKS: Roger Brooks taking the  
deposition with Alliance Defending Freedom and

1 representing the intervenor.

2 ATTORNEY HOLCUMB: Christina Holcumb for  
3 intervenor.

4 ATTORNEY DUCAR: Timothy Ducar for  
5 intervenor.

6 ATTORNEY CSUTOROS: Rachel Csutoros for  
7 intervenor.

8 ATTORNEY TRYON: David Tryon at the  
9 Attorney General's Office in West Virginia, and I  
10 represent the State of West Virginia.

11 ATTORNEY MORGAN: Kelly Morgan with  
12 Bailey and Wyant on behalf of West Virginia Board of  
13 Education and Superintendent Burch.

14 ATTORNEY DENIKER: Good morning,  
15 everyone. Susan Deniker representing Defendant Harrison  
16 County Board of Education and Superintendent Doris  
17 Stutler.

18 ATTORNEY GREEN: Roberta Green, Shuman  
19 McCuskey Slicer. I'm here on behalf of West Virginia  
20 Secondary School Activities Commission.

21 ATTORNEY BORELLI: And this is Tara  
22 Borelli with Lambda Legal on behalf of the Plaintiff,  
23 B.P.J..

24 ATTORNEY SWAMINATHAN: This is Sruti

1 Swaminathan also from Lambda Legal also on behalf of  
2 Plaintiff.

3 ATTORNEY HARTNETT: And this is Kathleen  
4 Hartnett from Cooley on behalf of the Plaintiff.

5 ATTORNEY BARR: Andrew Barr, also from  
6 Cooley on behalf of the Plaintiff.

7 ATTORNEY REINHARDT: This is Elizabeth  
8 Reinhardt, also with Cooley, also for Plaintiff.

9 ATTORNEY BLOCK: Josh Block from ACLU on  
10 behalf of Plaintiff.

11 VIDEOGRAPHER: If that is everybody, then  
12 can I ask the notary to swear in the witness?

13 ---

14 DEANNA ADKINS, M.D.,  
15 CALLED AS A WITNESS IN THE FOLLOWING PROCEEDING, AND  
16 HAVING FIRST BEEN DULY SWORN, TESTIFIED AND SAID AS  
17 FOLLOWS:

18 ---

19 VIDEOGRAPHER: And at this time the  
20 notary may be dismissed and we can begin.

21 ATTORNEY BROOKS: Thank you, ma'am.

22 NOTARY:

23 Thank you. Have a good day everybody.

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EXAMINATION

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BY ATTORNEY BROOKS:

Q. For convenience --- good morning, Dr. Adkins,

---

A. Good morning.

Q. --- and thank you for your time here today.

ATTORNEY BROOKS: For convenience, let me start out by marking three exhibits. As Adkins Exhibit Number 1, I would like to mark the Declaration and expert report of Deanna Adkins, which in the file will be made available to the court reporter is tab two. And I have copies for the witness and for counsel. I would also like to mark as Adkins Exhibit 2 what we have provided as tab three, which is the CV of the witness, Deanna Adkins.

---

(Whereupon, Adkins Exhibit 1, Report of Deanna Adkins, M.D., was marked for identification.)

(Whereupon, Adkins Exhibit 2, Curriculum Vitae, was marked for identification.)

---

THE WITNESS: If you don't mind, it's

1 Deanna (corrects pronunciation).

2 ATTORNEY BROOKS: Deanna. I certainly  
3 don't mind. I want to get that right. Sorry about  
4 that.

5 THE WITNESS: Thank you.

6 ATTORNEY BROOKS: And I would like to  
7 admit as Exhibit 3 the rebuttal report submitted by Dr.  
8 Adkins. I will provide copies of that to the witness.  
9 Just write the number on it.

10 THE WITNESS: Thank you.

11 ATTORNEY BROOKS: We'll have occasion to  
12 come back to those.

13 ---

14 (Whereupon, Adkins Exhibit 3, Rebuttal  
15 Report, was marked for identification.)

16 ---

17 BY ATTORNEY BROOKS:

18 Q. Dr. Adkins, let me ask you to find amongst the  
19 three documents I have given you Exhibit 2, which is  
20 your Curriculum Vitae.

21 VIDEOGRAPHER: Counsel, do you want that  
22 pulled up on the shared screen?

23 ATTORNEY BROOKS: That's up to the  
24 remote. You should certainly make it available.



1 Obviously, everybody here in the deposition room has it.

2 BY ATTORNEY BROOKS:

3 Q. Dr. Adkins, let me ask you to turn to page two  
4 of Exhibit 2, your Curriculum Vitae. And you have there  
5 a list headed professional training and academic career.  
6 Do you see that?

7 A. Yes.

8 Q. Am I right that you have done either residencies  
9 or fellowships in the field of pediatrics and  
10 endocrinology?

11 ATTORNEY BORELLI: Objection, form.

12 THE WITNESS: I've done both, yes,  
13 residency and fellowship in pediatrics followed by  
14 endocrinology, yes.

15 BY ATTORNEY BROOKS:

16 Q. And you have not done either a residency nor a  
17 fellowship in psychiatry. Have you?

18 ATTORNEY BORELLI: Objection to form.

19 THE WITNESS: No.

20 BY ATTORNEY BROOKS:

21 Q. And you don't have any degree in child or  
22 adolescent developmental psychology, do you?

23 A. No.

24 Q. Do you consider yourself trained and

1 professionally competent in using the American  
2 Psychiatric Association Diagnostic and Statistical  
3 Manual to make child and adolescent mental illness or  
4 psychiatric diagnoses generally outside the scope of  
5 gender dysphoria?

6 ATTORNEY BORELLI: Objection, form.

7 THE WITNESS: In pediatrics, we're  
8 trained to make some of the diagnoses that are  
9 appropriate for a pediatrics provider to treat.

10 BY ATTORNEY BROOKS:

11 Q. So is that a --- do you consider yourself  
12 generally competent in making diagnosis of child or  
13 adolescent mental illness according to the standards of  
14 DSM-V?

15 ATTORNEY BORELLI: Objection, form.

16 THE WITNESS: For the things I was  
17 trained in and have continued to get CME in, I do.

18 BY ATTORNEY BROOKS:

19 Q. And you do not have any training in sports  
20 physiology, do you?

21 ATTORNEY BORELLI: Objection, form.

22 THE WITNESS: Nothing specific.

23 BY ATTORNEY BROOKS:

24 Q. You would consider that to be outside your field

1 of professional expertise. Am I right?

2 ATTORNEY BORELLI: Objection, form.

3 THE WITNESS: There is probably some over  
4 lap given that physiology and endocrinology are very  
5 important and tied and interlinked, but I couldn't tell  
6 you since I don't know where the overlap might be.

7 BY ATTORNEY BROOKS:

8 Q. You yourself have not done any research related  
9 to sports physiology, have you?

10 ATTORNEY BORELLI: Objection, form.

11 THE WITNESS: Not myself, no.

12 BY ATTORNEY BROOKS:

13 Q. Nor have you done any research relating to the  
14 impact of hormones on athletic capability?

15 ATTORNEY BORELLI: Objection, form.

16 THE WITNESS: Not personally.

17 BY ATTORNEY BROOKS:

18 Q. Do you consider yourself to be an expert in any  
19 sense in the question of what is or is not fair?

20 ATTORNEY BORELLI: Objection, form.

21 THE WITNESS: Well, that's a broad  
22 question. That's ---.

23 BY ATTORNEY BROOKS:

24 Q. Do you consider yourself an expert in the

1 concept of fairness?

2 ATTORNEY BORELLI: Objection.

3 THE WITNESS: I believe that I can  
4 recognize fairness and have a concept that would be  
5 appropriate for someone of my age.

6 BY ATTORNEY BROOKS:

7 Q. Do you believe that you have expertise and  
8 fairness beyond that from ordinary human experience?

9 ATTORNEY BORELLI: Objection, form.

10 THE WITNESS: I would have to see what  
11 that would look like to say yes or no to that question.

12 BY ATTORNEY BROOKS:

13 Q. All right.

14 Let's look at your list of publications, which  
15 is on page three of Exhibit 2, your curriculum vitae.  
16 And under the --- the page three and continuing onto  
17 page four is a section titled Refereed Journal.

18 Correct?

19 A. Yes.

20 Q. And by Refereed Journal --- we'll both have to  
21 remember that. And also the court reporter may from  
22 time to time tell one of us to slow down. These all  
23 just ordinary parts of the process, just forgetting to  
24 speak up or to go slow enough to be transcribed.

1 Can you explain for the record what you mean by  
2 refereed journal, what the significance of that heading  
3 is?

4 A. Yes. So for those journals they are reviewed by  
5 an editor, and those are peer reviewed as well.

6 Q. So these --- this would be the list of your  
7 publications that would --- you would consider to be  
8 peer reviewed publications?

9 ATTORNEY BORELLI: Objection, form.

10 THE WITNESS: Looking at the date on the  
11 front of this one, yes.

12 BY ATTORNEY BROOKS:

13 Q. And that date is January 21st of this year,  
14 2022.

15 Right?

16 A. Yes.

17 Q. And have you had any peer reviewed publication  
18 appear since January 21st of this year?

19 A. I have one that is --- that's in press for next  
20 month.

21 Q. And what is the title of that?

22 A. I would have to review the title in my e-mail.  
23 It's Clinical Simulation for Education of Nurse  
24 Anesthesia in Gender Affirming Care.

1 Q. Thank you.

2 A. Roughly.

3 Q. Roughly?

4 I see an article here, number three on the  
5 list, Tejawani, from Tejawani, et al, and you are one of  
6 the authors shown from year 2017. Do you see that?

7 A. Yes.

8 Q. And that relates to disorders of sexual  
9 development.

10 Am I correct?

11 A. Yes.

12 Q. And am I correct that that article has ---  
13 doesn't speak at all to the questions of gender.

14 Does it?

15 ATTORNEY BORELLI: Objection to form.

16 THE WITNESS: That, no.

17 BY ATTORNEY BROOKS:

18 Q. Not correct?

19 A. I'm sorry, no, it doesn't speak.

20 Q. Just to be clear for the record, the Tejawani et  
21 al. article which you are a co-author does not speak at  
22 all to questions of gender identity.

23 Correct?

24 ATTORNEY BORELLI: Objection, form.

1                   THE WITNESS:   Correct.

2           BY ATTORNEY BROOKS:

3           Q.       And I see here a Lapinski, et al. article, the  
4       4th item, from 2018, entitled Best Practices in  
5       Transgender Health: A Clinician's Guide for Primary  
6       Care.

7                   Do you see that?

8           A.       Yes.

9           Q.       Am I correct that that article does not report  
10      on any regional research by the authors?

11                   ATTORNEY BORELLI:   Objection to form.

12                   THE WITNESS:   I believe that's true.

13           BY ATTORNEY BROOKS:

14           Q.       Are you the author of any peer reviewed papers  
15      that report original clinical research relating to  
16      gender identity or for transgender therapies?

17                   ATTORNEY BORELLI:   Objection to form.

18                   ATTORNEY BROOKS:   I don't know who spoke  
19      to the witness.

20                   THE WITNESS:   So gosh, I have a lot of  
21      things that are in process.   Let me give it a second.

22                   ATTORNEY BORELLI:   Take the time you need  
23      to review that to answer the question fully.

24                   THE WITNESS:   Could you repeat the

1 question?

2 BY ATTORNEY BROOKS:

3 Q. Yes. Are you the author of any published peer  
4 reviewed papers that report original clinical research  
5 relating to gender identity or transgender therapies?

6 ATTORNEY BORELLI: Objection to form.

7 THE WITNESS: The item on number six  
8 would be the closest. And it is talking with patients  
9 about the gender identity and their experience of  
10 transgender care, yes.

11 BY ATTORNEY BROOKS:

12 Q. The --- that paper in particular is essentially  
13 calling for research.

14 Am I correct?

15 ATTORNEY BORELLI: Objection to form.

16 THE WITNESS: Yes.

17 BY ATTORNEY BROOKS:

18 Q. It is not reporting on accomplished clinical  
19 research, is it?

20 ATTORNEY BORELLI: Objection, form.

21 THE WITNESS: So in that study we  
22 actually did interview individuals as part of the study,  
23 so it has --- it's done as a --- oh, Lord, words. I'm  
24 going to find the word in a second. Not in like ---



1 more of a public health-based research approach where  
2 you do not actual like counting of things like you would  
3 do sort of --- search, but more around interviewing and  
4 looking at quantitate versus qualitative. That's the  
5 word I'm looking for. It's a qualitative study which is  
6 typically done in public health programs or other public  
7 health research.

8 Q. All right.

9 Am I correct, Dr. Adkins, that you, yourself,  
10 have not treated nor personally examined Plaintiff,  
11 B.P.J.?

12 ATTORNEY BORELLI: Objection, form.

13 THE WITNESS: That's correct.

14 BY ATTORNEY BROOKS:

15 Q. And you don't have any direct knowledge as to at  
16 what Tanner stage B.P.J. began puberty blockers.

17 Am I correct?

18 A. I don't recall seeing that in any of the  
19 documentation.

20 Q. And you don't have any knowledge as to how  
21 B.P.J.'s physiology or athletic capabilities compare to  
22 a genetic female of a similar age, do you?

23 ATTORNEY BORELLI: Objection, form.

24 THE WITNESS: I haven't assessed the

1 particular patient, person.

2 BY ATTORNEY BROOKS:

3 Q. Let me take you again to Exhibit 2 and page two  
4 ---?

5 ATTORNEY MORGAN: May I interrupt for a  
6 moment.

7 ATTORNEY BROOKS: I'm sorry. Who's  
8 speaking?

9 ATTORNEY MORGAN: Sure. This is Kelly  
10 Morgan. I'm having a terrible time understanding the  
11 witness. So before we go on is there any way to see if  
12 we can --- it sounds extremely muffled. I'm only  
13 catching like maybe half of the words.

14 ATTORNEY BROOKS: Most --- most of the  
15 voice is coming through very clear on our end. I'm  
16 going to move speaker so that paper shuffling is not as  
17 likely to shuffle it. Beyond that, I think everybody in  
18 this room will agree that we're speaking slowly and  
19 clearly and, frankly, loudly. So I'm not sure there's  
20 more we can do.

21 ATTORNEY BORELLI: And Kelly, for what it  
22 is worth, I think I caught maybe half of your words. I  
23 wonder if there is a connection issue on your end that  
24 might be worth investigating.

1                    ATTORNEY HARTNETT: I will just say for  
2 the record, and others should speak up too because we  
3 obviously want all counsel to hear the deposition. I  
4 have been able to hear Mr. Brooks, the witness, and the  
5 objections have been a bit more faint, but we have been  
6 able to make them out so far.

7                    ATTORNEY TRYON: This is Dave Tryon. I  
8 share Kelly's frustration. I'm having difficulty  
9 understanding the witness, so ---.

10                   ATTORNEY BROOKS: And similarly, Dave,  
11 when we hear you, you're a little bit more muffled than  
12 some of the other voices. So the issue, perhaps the  
13 mics and speakers on the other end, but there's nothing  
14 more we can do at this end.

15                   ATTORNEY GREEN: This is Roberta Green,  
16 and I'm also having trouble hearing. And I'm  
17 considering maybe --- you know, maybe muting my computer  
18 and calling in on my phone and see if I can hear better.  
19 I think when the doctor looks down to look at documents  
20 we lose some of that. So I'll report in if calling in  
21 on my phone is a breakthrough, but I appreciate you all.  
22 Thank you.

23                   ATTORNEY DENIKER: Yes. Thank you. I'm  
24 also having trouble. And I'm curious if the court

1 reporter is having trouble. And if she's not, that's  
2 good, but I just want to make sure that we --- that  
3 everybody can hear.

4 COURT REPORTER: So my biggest issue is  
5 people not saying their names when they're speaking. So  
6 we just had a bunch of people and I really have no idea  
7 who is sayin anything. I don't know who is making the  
8 objections. And ma'am, with the mask on, it is hard to  
9 understand you at times. I'm really like having to  
10 really focus in on you. And the objections are coming  
11 in quick. And I mean, there are definitely some  
12 challenges, but I don't know.

13 ATTORNEY BORELLI: Well, in case this is  
14 helpful, so this is Tara Borrelli with Lambda Legal on  
15 behalf of the Plaintiff. I am the person defending the  
16 deposition, so the objections will be coming from me, in  
17 case that's helpful going forward.

18 COURT REPORTER: Yes.

19 ATTORNEY HARTNETT: This is Kathleen  
20 Hartnett for the Plaintiff from Cooley. I was the first  
21 person that spoke after someone raised the issue. I  
22 believe Miss --- Ms. Morgan had raised the issue of the  
23 ability to hear. And I would just say for the record  
24 this is an in person deposition that was scheduled where

1 we had proposed it to be remote if parties saw fit to do  
2 that. We're not objecting to it being in person. We're  
3 --- obviously they're defending. And all parties had  
4 the ability to attend in person if they chose to.

5 ATTORNEY BROOKS: And I --- I will ---  
6 this is Roger Brooks taking the deposition. I will  
7 suggest that we just agree by voice acclimation that  
8 we're not going to cycle through all the names and try  
9 to identify all the people who have chatted with us  
10 about their reception and simply move on with the  
11 deposition unless anybody objects to that.

12 ATTORNEY MORGAN: I have no objection to  
13 that. This is Kelly Morgan. But is there any  
14 possibility that the witness would be able to remove her  
15 mask if everyone else is masked other than the  
16 questioner? Like I --- I'm not having trouble hearing  
17 anyone else other than the witness, and it just seems to  
18 get muffled.

19 ATTORNEY BORELLI: I'm sorry, but I --- I  
20 don't believe that's going to be an option. I mean,  
21 this --- this is partly why a remote deposition would  
22 have been our --- our preference, but Dr. Adkins  
23 obviously has to take precautions because she is  
24 continuing to see and treat patients. And so she needs

1 to protect her health.

2 ATTORNEY BROOKS: And we did agree to  
3 proceed in whatever way the witness wanted when it comes  
4 to that, so we'll all just have to live with that as  
5 part of these days.

6 May we proceed?

7 ATTORNEY TRYON: Yes.

8 BY ATTORNEY BROOKS:

9 Q. If you have Exhibit 2 and on page two of that we  
10 have professional training and academic career, which  
11 towards the bottom includes your current two  
12 appointments associated with Duke University.

13 Am I correct?

14 A. Three.

15 Q. I apologize. I see that. One is you're an  
16 Associate Professor of Pediatrics.

17 Correct?

18 A. Correct.

19 Q. And you are the Director of the Duke Child and  
20 Adolescent Gender Care Clinic?

21 A. Correct.

22 Q. And you are a Co-Director of the Duke Sexual and  
23 Gender Health and Wellness Program.

24 Correct?

1 A. Correct.

2 Q. What is the total compensation you receive in  
3 connection with those three appointments with Duke  
4 University?

5 ATTORNEY BORELLI: Objection, form.

6 THE WITNESS: Well, you want a number or  
7 ---?

8 BY ATTORNEY BROOKS:

9 Q. I do.

10 A. I'm going to have to give an approximation.

11 Q. And that's fine?

12 A. Approximately, \$173,000 per year.

13 Q. And that is your total compensation on a W-2  
14 from Duke University?

15 A. No. Duke University only pays me \$20,000 per  
16 year. I work for the private Diagnostic Clinic, which  
17 is our private practice, and they pay me the balance.

18 Q. Okay.

19 And do you receive any other compensation in  
20 connection with your work with patients in connection  
21 with the Duke Child and Adolescent Gender Care Clinic?

22 ATTORNEY BORELLI: Objection, form.

23 THE WITNESS: No.

24 BY ATTORNEY BROOKS:

1 Q. Can you tell me what you earned in speaking fees  
2 in 2021, approximately?

3 ATTORNEY BORELLI: Objection, form.

4 THE WITNESS: In 2021? Is that what you  
5 said?

6 BY ATTORNEY BROOKS:

7 Q. I did.

8 A. Let's see. I'm losing track of dates. I think  
9 only like \$500.

10 Q. And what were the total expert fees that you  
11 received in 2021 in connection with serving as an expert  
12 in litigation?

13 ATTORNEY BORELLI: Objection, form.

14 THE WITNESS: Nothing.

15 BY ATTORNEY BROOKS:

16 Q. And in 2021 did you receive any payments for any  
17 reasons from any pharmaceutical company?

18 ATTORNEY BORELLI: Objection, form.

19 THE WITNESS: No.

20 BY ATTORNEY BROOKS:

21 Q. Let me ask you to look at Exhibit 1, which is  
22 your expert report. And if you would turn --- if you  
23 would turn to paragraph 37 of that report, paragraph 38.  
24 And there you say when a child is born a sex assignment



1 is usually made based on the infant's externally visible  
2 genitals. This designation is then recorded and usually  
3 becomes the sex designation listed on the infant's birth  
4 certificate. Do you see that language?

5 A. I do.

6 Q. And as a trained physician, can you tell us how  
7 a sex assignment is usually made based on the infant's  
8 external visible genitals?

9 A. Yes. In most cases the external genitals will  
10 have a form that looks typical to a male versus typical  
11 to a female. And if there is a question, then I get  
12 consulted, if there's something different.

13 Q. And by typical to a male, for instance, you mean  
14 what?

15 A. So male external genitalia at birth typically  
16 has a phallic structure, penis that is, of a certain  
17 length most of the time. And then there's scrotum and  
18 then there are usually testicles, although sometimes  
19 they can be up or down in the scrotum.

20 Q. And do you, yourself, have children?

21 A. I do.

22 Q. And you're aware that for quite a number of  
23 years now, in fact, parents often learn of the sex of  
24 their child before birth.

1 Correct?

2 ATTORNEY BORELLI: Objection, form.

3 THE WITNESS: I have been aware that  
4 ultrasonographers often tell people what they think they  
5 are. And I'm also the one that has to tell the parents  
6 that it is different when they're born and it is not  
7 exactly accurate.

8 BY ATTORNEY BROOKS:

9 Q. That is as a result of the quality of imaging on  
10 ultrasound sometimes the wrong call is made on that?

11 ATTORNEY BORELLI: Objection, form.

12 THE WITNESS: Possibly the quality of  
13 imaging, the skill of the person. There are also  
14 sometimes variations that aren't easily visible on  
15 ultrasound.

16 BY ATTORNEY BROOKS:

17 Q. You're are aware, are you not, that the genetic  
18 sex of infant is, in fact, determinable by genetic  
19 testing as early as the first trimester of pregnancy?

20 ATTORNEY BORELLI: Objection to form.

21 THE WITNESS: The typical testing for  
22 that is chromosomes, which are broad view and not  
23 specific for the hundreds of genes that can change the  
24 sex of the individual.

1 BY ATTORNEY BROOKS:

2 Q. Well, my question was you are aware, are you  
3 not, that the chromosomal sex of the infant is  
4 determinable as early as the first trimester of  
5 pregnancy?

6 ATTORNEY BORELLI: Objection, form.

7 THE WITNESS: I'm sorry. I didn't hear  
8 you say chromosomal. I thought you said biological. I  
9 apologize.

10 BY ATTORNEY BROOKS:

11 Q. I can't swear what I said the first time.

12 ATTORNEY BROOKS: Let's ask the reporter  
13 to read back the second question I asked. Is the court  
14 reporter muted perhaps?

15 COURT REPORTER: One minute.

16 ATTORNEY BROOKS: Okay.

17 COURT REPORTER: You said genetic  
18 testing. Do you want me to read the whole question?

19 ATTORNEY BROOKS: I do.

20 COURT REPORTER: You are aware, are you  
21 not, that the genetic sex of an infant is determinable  
22 by genetic testing as early as the first trimester of  
23 pregnancy?

24 ATTORNEY BORELLI: Objection to form.

1                    COURT REPORTER: And again I just want to  
2 say that the witness is hard to understand. There is  
3 definitely a lot of muffling words coming through, you  
4 know, just like in the sentence there might be two words  
5 that I just have to like really --- I'm just struggling  
6 over here with this mask. I can't see your lips moving,  
7 so it's really hard, but --.

8                    THE WITNESS: I'll slow down, but I was  
9 sick earlier this week, and I'd really rather not share  
10 that with anyone in the room. And I don't think that  
11 they would like that, so ---.

12 BY ATTORNEY BROOKS:

13            Q. Don't consider yourself pressured to take off  
14 your mask. Just do what you can to speak clearly into  
15 the microphone.

16                    ATTORNEY BORELLI: Thank you. And we  
17 just moved the mic closer to the witness as well, so we  
18 --- we hope that that will help make a difference.

19                    ATTORNEY HARNETT: Excuse me. This is  
20 Kathleen Hartnett from Cooley. I would like to ask  
21 whether the videotaping that's happening now will allow  
22 further transcription after the deposition?

23                    VIDEOGRAPHER: Yes, that's --- the  
24 videotape is picking up everything that --- I'm having

1 no troubles on my side, so it's picking up all of the  
2 audio and everything.

3 ATTORNEY HARTNETT: Thank you very much.

4 VIDEOGRAPHER: You're welcome.

5 ATTORNEY BROOKS: And rather than  
6 re-reading the question, I'm just going to forget all  
7 that and ask you a new question.

8 BY ATTORNEY BROOKS:

9 Q. You are aware, are you not, that the chromosomal  
10 sex of an infant nowadays can be determined as soon as  
11 the first trimester of pregnancy?

12 ATTORNEY BORELLI: Objection to form.

13 THE WITNESS: You can obtain the baseline  
14 chromosomes, yes.

15 BY ATTORNEY BROOKS:

16 Q. And that will tell you the chromosomal sex of  
17 that infant?

18 ATTORNEY BORELLI: Objection, form.

19 THE WITNESS: The --- not really a term  
20 that is really precise as there's hundreds of genes that  
21 can change that.

22 BY ATTORNEY BROOKS:

23 Q. So you are not able to answer my question yes or  
24 no?

1                   ATTORNEY BORRELLI: Objection to form.

2                   THE WITNESS: I'm not able to answer the  
3 question yes or no.

4 BY ATTORNEY BROOKS:

5           Q.       You would agree that the genetic sex of an  
6 infant is determined at the instant of conception?

7                   ATTORNEY BORELLI: Objection to form.

8                   THE WITNESS: The actual Y chromosomes  
9 are at that time, yes.

10 BY ATTORNEY BROOKS:

11           Q.       That's not something that a doctor has any  
12 choice or could change at the time of birth?

13                   ATTORNEY BORELLI: Objection, form.

14                   THE WITNESS: The chromosomes, no.

15 BY ATTORNEY BROOKS:

16           Q.       And you understand what I think we all learned  
17 in perhaps sixth grade biology that an individual with  
18 two X chromosomes, provided that there is no chromosomal  
19 abnormality, is female female and an individual free of  
20 abnormalities who has an X and a Y chromosome is male.

21                   Correct?

22                   ATTORNEY BORELLI: Objection, form.

23                   THE WITNESS: Free of any abnormalities,  
24 yes.

1 BY ATTORNEY BROOKS:

2 Q. And you also understand that in humans, like all  
3 mammals, a gamete from a male and a gamete from a female  
4 are necessary to create a fertilized egg in a new  
5 individual?

6 ATTORNEY BORELLI: Objection, form.

7 THE WITNESS: Can you read the very first  
8 part of the question again, please?

9 BY ATTORNEY BROOKS:

10 Q. You understand that in humans, as in all  
11 mammals, a gamete from a male and a gamete from a female  
12 are necessary to create a fertilized egg and a new  
13 individual?

14 ATTORNEY BORELLI: Same objection.

15 THE WITNESS: Yes.

16 BY ATTORNEY BROOKS:

17 Q. Now, if you look at paragraph 41 in your  
18 declaration ---

19 A. Yes.

20 Q. --- in paragraph 41 you state, quote, biological  
21 sex, biological male or female are imprecise and should  
22 be avoided. Do you see that?

23 A. Yes.

24 Q. And it is your view that the terms biological

1 male, biological female and biological sex are so  
2 imprecise as to be not useful from a medical point of  
3 view?

4 ATTORNEY BORELLI: Objection, form.

5 THE WITNESS: In my practice we have to  
6 be more careful than that because I see quite a lot of  
7 individuals where that wouldn't be a very precise  
8 answer.

9 BY ATTORNEY BROOKS:

10 Q. My question is is it your expert opinion, are  
11 you offering expert opinion in terms of biological sex,  
12 biological male and biological female are so imprecise  
13 as to not be medically useful?

14 ATTORNEY BORELLI: Objection, form.

15 THE WITNESS: Yes.

16 ATTORNEY BROOKS: Let me mark as Exhibit  
17 4 what is tab 5, and that is the Endocrine Society  
18 Guidelines dated 2017, but the number of authors. The  
19 first name is Wiley Hembree.

20 ---

21 (Whereupon, Adkins Exhibit 4, 2017  
22 Endocrine Society Guidelines, was marked  
23 for identification.)

24 ---



1                    ATTORNEY BROOKS: I'm handing that to the  
2 witness and to opposing counsel.

3 BY ATTORNEY BROOKS:

4        Q.        Dr. Adkins, this is a document that you cite in  
5 your expert report.

6                    Correct?

7        A.        Correct.

8        Q.        And with which you are quite familiar?

9        A.        Correct.

10       Q.        Do you know Dr. Hembree?

11       A.        I spoke with him on the phone.

12       Q.        You would agree, would you not, that he's been  
13 prominent in the field of transgender medicine for  
14 decades?

15                    ATTORNEY BORELLI: Objection, form.

16                    THE WITNESS: His publications, yes.

17 BY ATTORNEY BROOKS:

18       Q.        And another author is Peggy Cohen-Kettenis. Do  
19 you see that? She's the second author.

20       A.        Yes.

21       Q.        And likewise, she has been prominent in the  
22 field for at least 20 years?

23                    ATTORNEY BORELLI: Objection.

24                    THE WITNESS: I've seen publications in

1 that date range, yes.

2 BY ATTORNEY BROOKS:

3 Q. Have you met Dr. Cohen-Kettenis?

4 A. No.

5 Q. And she is associated with a highly respected  
6 institute in Amsterdam.

7 Am I right?

8 A. I am not certain. I would have to look that up.

9 Q. You don't know. You weren't invited to serve on  
10 the committee that drafted these guidelines, were you?

11 ATTORNEY BORELLI: Objection, form.

12 THE WITNESS: There is an invitation  
13 extended to all Endocrine Society members. I did find a  
14 time. That was early in my work with this at that time.

15 BY ATTORNEY BROOKS:

16 Q. If you look down on page one, about five lines  
17 from the bottom ---.

18 A. Say it again.

19 Q. Page one, five lines from the bottom?

20 A. Yes.

21 Q. Actually, let's go two more up and begin a  
22 sentence. There's a sentence that begins they require a  
23 safe and effective hormone regimen that will, one,  
24 suppress endogenous sex hormone secretion determined by

1 the person's genetic/gonadal sex. Do you see that?

2 A. I do.

3 Q. And do you think you understand what's referred  
4 to by the term genetic/gonadal sex?

5 ATTORNEY BORELLI: Objection, form.

6 THE WITNESS: Yes.

7 BY ATTORNEY BROOKS:

8 Q. And what is your understanding of what that  
9 refers to?

10 A. So that would include both the chromosomes as  
11 mentioned before, the broad XY, and it should include  
12 all of the other genetic mutations as well as what  
13 actual gonads are present in the person.

14 Q. And this committee, these prominent researchers  
15 at least considered genetic/gonadal sex to be a  
16 meaningful and readily understandable binary  
17 classification.

18 Correct?

19 ATTORNEY BORELLI: Objection, form.

20 THE WITNESS: That's not clear there and  
21 it is different from what you said before.

22 BY ATTORNEY BROOKS:

23 Q. I try to make each question somewhat different  
24 from the one before, so yes. Let me ask a new question.

1 This committee considered --- the committee that drafted  
2 these guidelines considered genetic/gonadal sex to be a  
3 meaningful and readily understandable classification.

4 Correct?

5 ATTORNEY BORELLI: Objection, form.

6 THE WITNESS: Yes. They didn't use the  
7 word chromosomal sex. And they included gonads which  
8 are also a part of the broad development of human  
9 reproductive biology.

10 BY ATTORNEY BROOKS:

11 Q. And in fact, you, yourself, quoted this language  
12 in your expert report, did you not?

13 A. Yes.

14 Q. And genetic sex, in your understanding, what is  
15 the meaning of genetic sex?

16 ATTORNEY BORELLI: Objection, form.

17 THE WITNESS: Well, in most patients, in  
18 most people, it is whether you received an X or a Y  
19 chromosome and all of your body parts include an XY  
20 containing or an XX containing cell. There are cases  
21 where you can have mosaicism or different parts of a  
22 human at different sex chromosomes where a part is XX, a  
23 part is XY, part is XO. And then there is also some  
24 mutations that can occur in lots of other locations that

1 can determine whether or not a patient's, you know,  
2 likely to have the rest of their human development  
3 appear as what we would more typically see in a male  
4 human or a female human.

5 BY ATTORNEY BROOKS:

6 Q. Well, in every human individual who is healthy  
7 and free of disorder of sexual development, genetic sex  
8 and gonadal sex are --- directly correspond.

9 Correct?

10 ATTORNEY BORELLI: Objection, form.

11 THE WITNESS: Typically, yes.

12 BY ATTORNEY BROOKS:

13 Q. So in a healthy individual free of genetic  
14 defect every individual who is chromosomally XX is going  
15 to have female gonads and female genitalia.

16 Correct?

17 ATTORNEY BORELLI: Objection to form.

18 THE WITNESS: My only concern is I would  
19 not use defect as a language. There's --- you know, we  
20 see variation across humans and we --- you know, there  
21 are variations that are normal and variations that are  
22 typical versus rare. So I would not call it necessarily  
23 a defect, maybe a variation would be the word I would  
24 use.

1 BY ATTORNEY BROOKS:

2 Q. The relationship between chromosomal sex and  
3 gonads are not separate things that can vary in healthy  
4 individuals, are they?

5 ATTORNEY BORELLI: Objection to form.

6 THE WITNESS: Well, I have healthy  
7 individuals who have XY chromosomes and external  
8 genitalia that are completely female.

9 ATTORNEY BROOKS: Let me mark as Exhibit  
10 5 the prior edition guidelines put out by the Endocrine  
11 Society in 2009, eight years earlier.

12 ---

13 (Whereupon, Adkins Exhibit 5, 2009  
14 Endocrine Society Guidelines, was marked  
15 for identification.)

16 ---

17 BY ATTORNEY BROOKS:

18 Q. And the primary author is on --- the first  
19 author on the 2009 guidelines are the same individuals,  
20 Dr. Hembree and Cohen-Kettenis?

21 Correct?

22 A. Correct.

23 ATTORNEY BORELLI: Objection, form.

24 BY ATTORNEY BROOKS:

1 Q. In fact, you, yourself, were familiar with and  
2 regularly consulted these guidelines.

3 Am I correct?

4 ATTORNEY BORELLI: Objection to form.

5 THE WITNESS: Prior to 2017?

6 BY ATTORNEY BROOKS:

7 Q. Correct.

8 A. I used these guidelines.

9 Q. And did you find them to be incomprehensible?

10 ATTORNEY BORELLI: Objection, form.

11 THE WITNESS: No.

12 BY ATTORNEY BROOKS:

13 Q. If you look with me on page marked 3134, which  
14 is the third page of the document, second column three  
15 quarters of the way down is the definition of --- under  
16 the heading of definitions is a definition of  
17 transsexual or transsexual people.

18 Do you see that?

19 A. I see it.

20 Q. It says there that a transsexual person refers  
21 to a biological male who identifies as or desires to be  
22 a female --- a member of the female gender or vice  
23 versa.

24 Do you see that?

1 A. Yes.

2 Q. And so in 2009 these prominent authors in the  
3 field considered biological male to be a scientifically  
4 useful and adequately clear term for them to use in  
5 these guidelines issued by the Endocrine Society.

6 Correct?

7 ATTORNEY BORELLI: Objection, form.

8 THE WITNESS: It's written that way in  
9 this paper, yes.

10 BY ATTORNEY BROOKS:

11 Q. And you in that time period 2009 to just 2017  
12 used these guidelines and were able to understand them.

13 Correct?

14 ATTORNEY BORELLI: Objection, form.

15 THE WITNESS: You know, I would have to  
16 spend some time looking to see what else is in here. It  
17 has been a long time since I've used these particular  
18 and pulled out. And it is a single location. It can  
19 sometimes be misleading if you're aware --- if you've  
20 read many medical articles.

21 BY ATTORNEY BROOKS:

22 Q. So you don't recall whether you found these  
23 guidelines to be comprehensible and useful for your  
24 purposes in the years between 2009 and 2017?



1                    ATTORNEY BORELLI: Objection, form.

2                    THE WITNESS: Generally they were useful.

3                    BY ATTORNEY BROOKS:

4            Q.        If you look just a little lower is --- the next  
5 definition is transition.

6                    Do you see that?

7            A.        Yes.

8            Q.        And it refers to a period of time during which  
9 transsexual persons change their physical, social and  
10 legal characteristics to the gender opposite that of  
11 their biological sex.

12                    Do you see that?

13            A.        I do.

14            Q.        And again, these authors used the term  
15 biological sex, did they not?

16            A.        They did.

17            Q.        And they indicated their understanding that  
18 biological sex is binary in referring to opposite of a  
19 biological sex.

20                    Correct?

21                    ATTORNEY BORELLI: Objection, form.

22                    THE WITNESS: In this older version they  
23 do use more binary terms. As you know, language changes  
24 over time. In the new guidelines they don't talk as

1 much about binary.

2 BY ATTORNEY BROOKS:

3 Q. Is it your belief that the underlying biology  
4 has changed since 2009?

5 ATTORNEY BORELLI: Objection, form.

6 THE WITNESS: Our understanding of a lot  
7 of things in this area is growing rapidly. It's a rapid  
8 area of research.

9 BY ATTORNEY BROOKS:

10 Q. Let me ask you to turn in this document to page  
11 3141.

12 A. Same document, 3141?

13 Q. Yes.

14 A. Thank you.

15 Q. And here we're in a discussion of the use of  
16 GRNH analogs, which is to say puberty blockers.

17 Am I correct?

18 A. Which section?

19 Q. Well, the heading is 2.3, evidence, and it is  
20 talking about in the second paragraph treatment with  
21 GRNH analogs?

22 ATTORNEY BORELLI: Counsel, can we give  
23 the witness one moment to look at this?

24 ATTORNEY BROOKS: Of course.

1                    ATTORNEY BORELLI: Thank you.

2                    THE WITNESS: Yes, that appears to be  
3 what is discussed in this section.

4 BY ATTORNEY BROOKS:

5            Q.        Here the authors in the 2009 Endocrine Society  
6 guidelines describe the effect of treatment with puberty  
7 blockers.

8                    Correct?

9                    ATTORNEY BORELLI: Objection, form.

10                  THE WITNESS: Yes.

11 BY ATTORNEY BROOKS:

12            Q.        And they say among other things that, quote, in  
13 girls breast development will become atrophic and menses  
14 will stop. And they continue, quote, in boys  
15 verilization will stop and testicular volume will  
16 decrease.

17                    Do you see those quotes?

18            A.        I do.

19            Q.        Again, in 2009, the Endocrine Society didn't  
20 think there was ambiguity or imprecision as to what is a  
21 girl and what is a boy for purposes of development in  
22 puberty, did they?

23                    ATTORNEY BORELLI: Objection to form.

24                    THE WITNESS: As I said, the language

1 would be different and likely is different in  
2 conversations around this because it is not as precise  
3 as I would use or my colleagues would use.

4 BY ATTORNEY BROOKS:

5 Q. In 2009 the Endocrine Society in publishing  
6 these guidelines didn't think there was any ambiguity or  
7 imprecision as to what is a girl and what is a boy for  
8 purposes of the effect of puberty.

9 Correct?

10 ATTORNEY BORELLI: Objection to form.

11 THE WITNESS: I would have to read the  
12 article up to this point to see what their  
13 clarifications are with regard to those phrases.  
14 Oftentimes in the beginning of articles they will  
15 clarify what they mean by a particular phrase, and  
16 taking it out of context is a little bit difficult for  
17 me to just say it is true right here on the spot.

18 ATTORNEY BORELLI: I would also just  
19 object to the extent that we're asking about select  
20 definitions without having given the witness an  
21 opportunity to review the entire definition and section  
22 of the document and asking her to draw conclusions about  
23 the larger document.

24 ATTORNEY BROOKS: Counsel, I think that

1 you are supposed to under the Rules to confine your  
2 objections to stating objection.

3 BY ATTORNEY BROOKS:

4 Q. In your practice today with respect to  
5 individuals who do not suffer from any disorder of  
6 sexual development you don't have any trouble telling  
7 girls from boys, do you?

8 ATTORNEY BORELLI: Objection to form.

9 THE WITNESS: I do not have trouble  
10 deciding who was assigned female at birth versus those  
11 who were assigned male at birth.

12 BY ATTORNEY BROOKS:

13 Q. We have already talked about how that assignment  
14 is done based on observation of genitalia, which depend  
15 on underlying genetic sex.

16 Right?

17 ATTORNEY BORELLI: Objection, form.

18 THE WITNESS: So the typical manner of  
19 assignment we have discussed. Sometimes those things  
20 change over time with --- absent of course a difference  
21 of sex development or intersex conditions. Typically  
22 they would match.

23 BY ATTORNEY BROOKS:

24 Q. And if you are, for instance, getting ready to

1 prescribe cross sex hormones for a patient in patients  
2 who are free of any disorder of sexual development you  
3 don't have any trouble determining which patients need  
4 testosterone as a cross sex hormone versus which  
5 patients need estrogen as a cross sex hormone, do you?

6 ATTORNEY BORELLI: Objection, form.

7 THE WITNESS: My mouth is getting dry. I  
8 don't have any trouble with that.

9 BY ATTORNEY BROOKS:

10 Q. And that's because absent rare and unusual  
11 disorders of sexual development it's really easy for all  
12 of us to tell girls from boys, isn't it?

13 ATTORNEY BORELLI: Objection to form.

14 THE WITNESS: With regard to their sex  
15 assignment at birth, yes.

16 BY ATTORNEY BROOKS:

17 Q. Now, you've mentioned a couple times when I  
18 asked you questions about the 2009 guidelines that  
19 perhaps a language that's used has changed.

20 Am I right?

21 A. Yes.

22 Q. You are not contending that how human biology  
23 works has changed?

24 ATTORNEY BORELLI: Objection, form.

1                   THE WITNESS: Our understanding of human  
2 biology at this time is accelerating greatly, especially  
3 in the area of genetics. We can now look at someone's  
4 whole exome, whole chromosome, and it's --- I mean in  
5 this timeframe there's an amazing amount of information  
6 that's become more clear.

7 BY ATTORNEY BROOKS:

8           Q.       So is it your --- are you asserting that the  
9 more recent Endocrine Society policy statement should be  
10 accepted as a more precise Scientific statement?

11                   ATTORNEY BORELLI: Objection, form.

12                   THE WITNESS: The goal is for that to be,  
13 yes, when you are writing those. And it's also been  
14 sometimes since this was published as well.

15 BY ATTORNEY BROOKS:

16           Q.       Since the 2017 guidelines?

17           A.       Correct.

18           Q.       But in general, is it your view the more recent  
19 statements of the Endocrine Society that touch on issues  
20 of the definition of gender and sex are --- we should  
21 consider more accurate or reliable than earlier  
22 statements?

23                   ATTORNEY BORELLI: Objection, form.

24                   THE WITNESS: In the correct context,

1 yes. Sometimes when they're taken out of context and  
2 applied to not the exact same population, they may or  
3 may not be as precise.

4 BY ATTORNEY BROOKS:

5 Q. They may or may not be. That is you don't  
6 maintain that generally more recent statements of the  
7 Endocrine Society relating to definitions of gender and  
8 sex are more reliable than earlier statements?

9 ATTORNEY BORELLI: Objection to form.

10 THE WITNESS: Their goal and our goal as  
11 a community is to be as precise as possible. Sometimes  
12 that works and sometimes it doesn't.

13 ATTORNEY BROOKS: Let me mark as Exhibit  
14 --- what are we at, 6. Exhibit 6. What is tab 4 in the  
15 materials provided to the court reporter, an article  
16 Lapinski, et al., which Dr. Adkins is a coauthor from  
17 2017. Pardon me, 2017.

18 ---

19 (Whereupon, Adkins Exhibit 6, 2017  
20 Lapinski Article, was marked for  
21 identification.)

22 ---

23 BY ATTORNEY BROOKS:

24 Q. And this is your only or perhaps one of only two



1 peer reviewed articles on which you were an author that  
2 relate to transgender patients.

3 Correct?

4 ATTORNEY BORELLI: Objection, form.

5 THE WITNESS: I'm going to refer back to  
6 my ---.

7 BY ATTORNEY BROOKS:

8 Q. Please do, and that's Exhibit 2.

9 A. I apologize --- I'm sorry. I was thinking of  
10 the book chapter. Yes, I was thinking of the book  
11 chapter I've written there. So those are also peer  
12 reviewed. So if you just falling manuscript of joint  
13 articles, that's true, but I also have one book chapter  
14 published and one that is in process.

15 Q. Well, at any rate, this article was published in  
16 2017, the same year as the more recent guidelines from  
17 the Endocrine Society.

18 Correct?

19 A. Correct.

20 Q. And in this article --- let me ask you to turn  
21 to page 692. And looking at a paragraph that actually  
22 runs over from 689 because of a long intervening table.  
23 Paragraph is headed understanding the meaning of  
24 transitioning for transgender patients.

1 Do you see that?

2 A. Yes.

3 Q. And the paragraph continues on to page 692 and  
4 the language I want to call your attention to is there,  
5 but of course feel free to look at the paragraph?

6 ATTORNEY BORELLI: Counsel, for clarity  
7 of the record, I'm showing that the heading is on page  
8 689.

9 ATTORNEY BROOKS: Correct. That's where  
10 the paragraph begins and then there's a two-page table  
11 breaks up the paragraph and now we're on 692.

12 ATTORNEY BORELLI: Thank you.

13 THE WITNESS: Just that paragraph.

14 BY ATTORNEY BROOKS:

15 Q. Yes.

16 A. Okay.

17 Q. In 2017, writing a guide for clinicians as to  
18 what you considered to be best practices in transgender  
19 health you and your coauthors thought that it was clear  
20 and useful to refer to, quote, the opposite biological  
21 sex, closed quote, did you not?

22 ATTORNEY BORELLI: Objection, form.

23 THE WITNESS: The language would be  
24 reflective of the original publications.

1 BY ATTORNEY BROOKS:

2 Q. Dr. Adkins, what do you mean by that answer?

3 A. When you're putting something into a journal  
4 article and you're reporting that original article's  
5 information, it would be inappropriate to change the  
6 language. So the original report that states this  
7 particular information used those words.

8 Q. Well, you didn't put this in quotation marks in  
9 your article, did you?

10 ATTORNEY BORELLI: Objection, form.

11 THE WITNESS: We don't necessarily have  
12 to put them in quotation marks. In medically referred  
13 journals you can just put the reference.

14 BY ATTORNEY BROOKS:

15 Q. And in fact, there is no footnote to this, is  
16 there, there is no reference?

17 ATTORNEY BORELLI: Objection, form.

18 THE WITNESS: Not right at the end of  
19 that sentence.

20 BY ATTORNEY BROOKS:

21 Q. What that sentence says to get it into the  
22 record, I'm referring to sexual orientation, it says,  
23 quote, this fluctuation tends to occur more commonly  
24 with individuals who are attracted to the opposite

1 biological sex before transitioning, closed quotes.

2 Have I read that language correctly?

3 A. Correct.

4 Q. And publishing this guideline for clinicians in  
5 2017, is it your testimony that even if you thought that  
6 language was inaccurate and confusing you would not have  
7 clarified it?

8 ATTORNEY BORELLI: Objection, form.

9 THE WITNESS: I can't change what the  
10 publication states. It would be inappropriate for me to  
11 make a statement that was different from what the  
12 publication states. And there are people that fall on  
13 the binary and people who fall in the middle, and that  
14 particular study investigated people who identified on  
15 each end of the binary spectrum of individuals  
16 identification of gender identity.

17 BY ATTORNEY BROOKS:

18 Q. So you believe as a scientist and an author that  
19 writing in 2017, even if you thought the term biological  
20 sex was misleading and inaccurate, you --- it was  
21 nevertheless appropriate for you to use that term in a  
22 best practices guide that you were writing for  
23 clinicians?

24 ATTORNEY BORELLI: Objection, form.

1                   THE WITNESS: So if you would read the  
2                   entirety of the article, I would hope that we would be  
3                   clear and it would be understood in that isolated  
4                   paragraph, again I, have to use what language was used  
5                   in the original publication. Otherwise, I'm  
6                   misrepresenting the original publication and I would not  
7                   want to do that.

8                   BY ATTORNEY BROOKS:

9                   Q. Well, if you thought the original publication  
10                  was in accurate and misleading you wouldn't want to cite  
11                  and rely on it, would you?

12                  ATTORNEY BORELLI: Objection, form.

13                  THE WITNESS: As it's stated, it's not  
14                  inaccurate. And if you infer things from a sentence it  
15                  could be misleading. If you read it straight for what  
16                  it says, it's accurate to what the report gave in the  
17                  initial publication.

18                  BY ATTORNEY BROOKS:

19                  Q. Are you familiar, Dr. Adkins, with a NIH policy  
20                  that requires research supported by NIH grants that  
21                  involves animal or human clinical work to consider what  
22                  NIH refers to as, quote, sex as a biological variable,  
23                  closed quote?

24                  ATTORNEY BORELLI: Objection, form.

1                   THE WITNESS:S I have seen that policy  
2 and also seen the policies that are presented by the NIH  
3 which uses sex assigned at birth as well as gender  
4 identity and in addition, as variables that should be  
5 included in their research.

6 BY ATTORNEY BROOKS:

7           Q. My question is precise. Are you familiar with  
8 the NIH policy that requires grant supported research in  
9 sales or clinical work to, quote, consider sex as a  
10 biological variable?

11                   ATTORNEY BORELLI: Objection, form.  
12 Counsel, if you are going to continue questioning her  
13 about the policy, we'd request a copy be placed in front  
14 of the witness.

15                   ATTORNEY BROOKS: At the moment I'm just  
16 asking the witness if she's familiar with that policy.

17                   ATTORNEY BORELLI: My objection stands.

18                   THE WITNESS: I haven't read the entire  
19 policy. I have seen that within the documents that you  
20 have presented, so I can't accurately state if it is  
21 true.

22 BY ATTORNEY BROOKS:

23           Q. Have you, yourself, ever submitted any grant  
24 proposal that was subject to that NIH policy?

1                    ATTORNEY BORELLI: Objection, form.

2                    THE WITNESS: I have submitted NIH

3 grants.

4 BY ATTORNEY BROOKS:

5            Q. And in that connection did you take some steps  
6 to assure that your grant proposal would comply with  
7 that policy?

8                    ATTORNEY BORELLI: Objection, form.

9                    THE WITNESS: All of my grants  
10 applications had sex assigned at birth as a variable  
11 that we report.

12 BY ATTORNEY BROOKS:

13            Q. Let me show you another more recent Endocrine  
14 Society policy statement. This is tab eight. It will  
15 be Exhibit 7.

16                    ---

17                    (Whereupon, Adkins Exhibit 7, 2021  
18 Endocrine Society Scientific Statement,  
19 was marked for identification.)

20                    ---

21                    THE WITNESS: Before we start this  
22 questioning is it possible for me to take a break?

23                    ATTORNEY BROOKS: It certainly is. At  
24 any time that you want to, you just say so.

1                   VIDEOGRAPHER:   Going off the record.   The  
2   current time reads 10:08 a.m.

3 OFF VIDEO

4. \_\_\_\_\_

5 (WHEREUPON, A PAUSE IN THE RECORD WAS HELD.)

6 | ---

7 | ON VIDEOTAPE

8                   VIDEOGRAPHER:  We're back on the record.  
9   Current time reads 10:21 a.m. Eastern Standard Time.

10                    ATTORNEY BROOKS:    And this is Roger  
11 Brooks resuming the questioning.    I have put in front of  
12 the witness what is marked Exhibit 7, which is a, quote,  
13 scientific statement from the Endocrine Society that is  
14 entitled Considering Sex as a Biological Variable in  
15 Basic and Clinical Studies: An Endocrine Society  
16 Scientific Statement, closed quote.    Do you see that?

17 | A. Pardon me. Yes.

18 Q. So this is --- document, this statement is from  
19 2021, just last year. And four more years --- recent  
20 four more years of science available as compared to the  
21 2017 guidelines we looked at earlier.

22 | Correct?

23           A.       It is that --- yes, as far as the date goes, I  
24   mean, one would think they would be up-to-date.



1 Q. And let me just ask, obviously the Endocrine  
2 Society is a large organization, but do you know, either  
3 personally or by reputation, any of the authors listed  
4 on this document?

5 ATTORNEY BORELLI: Objection, form.

6 THE WITNESS: Excuse me. Walter Miller  
7 by reputation.

8 BY ATTORNEY BROOKS:

9 Q. And Walter Miller is at the University of  
10 California, San Francisco, according to the footnote  
11 there?

12 A. Let's see. That's what it looks like.

13 Q. And just looking down, the University of  
14 California, San Francisco, is a highly prestigious  
15 research institution, is it not?

16 A. It has a good reputation.

17 Q. And farther down, halfway down the block of  
18 institutions that these authors are associated with, I  
19 see University of California, Los Angeles. Do you see  
20 that?

21 A. Yes.

22 Q. And UCLA, to use its abbreviation, is also a  
23 highly respected research university, is it not?

24 A. You know, there is some variability there. And

1     yes, there are some folks there who do a nice job.

2           Q.     And maybe four lines from the bottom of that  
3     block I see a reference to the National Institute of  
4     Mental Health.

5                     Do you see that?

6           A.     Yes.

7           Q.     And that's a highly respected governmental  
8     research laboratory.

9                     Correct?

10                    ATTORNEY BORELLI:   Objection, form.

11                    THE WITNESS:    Yes.

12     BY ATTORNEY BROOKS:

13           Q.     And let me ask you to turn here in this document  
14     to the second page, which is page 220.  And this is, in  
15     fact, the beginning of the text after the abstract on  
16     the previous page.  And there it begins, quote, sex is  
17     an important biological variable that must be considered  
18     in the design and analysis of human and animal research.  
19     The terms sex and gender should not be used  
20     interchangeably.  Sex is dichotomous with sex  
21     determination in the fertilized zygotes stemming from  
22     unequal expression of sex chromosomal genes,  closed  
23     quote.

24                     Do you see that language?

1 A. I do.

2 Q. Do you understand the meaning of the word  
3 dichotomous?

4 A. I do.

5 Q. What does it mean?

6 A. Two options.

7 Q. There are two options. And do you think you  
8 understand the significance of the statement that,  
9 quote, sex is an important biological variable?

10 ATTORNEY BORELLI: Objection, form.

11 THE WITNESS: I understand that it ---  
12 yes.

13 BY ATTORNEY BROOKS:

14 Q. In fact, I believe you testified earlier that in  
15 the human body every body part, every cell either has XX  
16 chromosomes or XY chromosomes depending on the  
17 chromosomal sex of the individual.

18 Is that right?

19 ATTORNEY BORELLI: Objection, form.

20 THE WITNESS: Some individuals have a  
21 mixture.

22 BY ATTORNEY BROOKS:

23 Q. And those would be genetic abnormalities.

24 Am I correct?

1                    ATTORNEY BORELLI: Objection, form.

2                    THE WITNESS: Again, I don't like the  
3 word abnormalities. It is a variation in presentation  
4 of a human.

5                    BY ATTORNEY BROOKS:

6                    Q. You would agree, would you not, that any  
7 deviation from having either XX or XY chromosomes is  
8 widely considered to be an abnormality?

9                    ATTORNEY BORELLI: Objection, form.

10                   THE WITNESS: Again, I don't prefer that  
11 language.

12                   BY ATTORNEY BROOKS:

13                   Q. Dr. Adkins, I didn't ask you what you prefer. I  
14 understand your preference. My question is you would  
15 agree, would you not, within the scientific community it  
16 is widely held view that any chromosomal arrangement  
17 other than having XX or XY is abnormal?

18                   ATTORNEY BORELLI: Objection, form.

19                   THE WITNESS: Not in my experience in my  
20 group of people that I practice with, they would not  
21 describe it that way.

22                   BY ATTORNEY BROOKS:

23                   Q. Would you agree that sex is determined to use  
24 the language that I have directed you to, quote, in the

1 fertilized zygote, closed quote?

2 A. I'm sorry. Can you re-read the question or  
3 repeat the question?

4 Q. Yes. I'm referring to the language that  
5 references sex determination in the fertilized zygote.  
6 And my question is do you agree that the sex of an  
7 individual is determined, quote, in the fertilized  
8 zygote, closed quote?

9 ATTORNEY BORELLI: Objection, form.

10 THE WITNESS: Again, they're not being  
11 very specific in that particular sentence about what  
12 they mean by sex.

13 BY ATTORNEY BROOKS:

14 Q. You're not able to say whether this opening  
15 language in this 2021 statement from the Endocrine  
16 Society is in your view accurate or in accurate?

17 ATTORNEY BORELLI: Objection to form.

18 THE WITNESS: Taking one statement, I  
19 can't. This is a very long document.

20 BY ATTORNEY BROOKS:

21 Q. I'm asking you now, do you agree or disagree the  
22 sex is determined in the fertilized zygote?

23 ATTORNEY BORELLI: Objection, form.

24 THE WITNESS: XX and XY components are

1 determined in fertilized zygote. That doesn't  
2 necessarily equal sex that's assigned at birth.

3 BY ATTORNEY BROOKS:

4 Q. Absent any disorder of sexual development, the  
5 determination the zygote that you just described will,  
6 in fact, dictate 100 percent reliability the sex  
7 observed at birth.

8 Correct?

9 ATTORNEY BORELLI: Objection, form.

10 THE WITNESS: Well, I can't --- you know,  
11 in medicine we don't say anything is 100 percent. If  
12 you use the absent any --- any difference of sex  
13 development even an unknown one that we might not know  
14 about, that --- that is what we know to be true.

15 BY ATTORNEY BROOKS:

16 Q. You mentioned earlier that dichotomous means  
17 there are two alternatives and only two alternatives.

18 Right?

19 ATTORNEY BORELLI: Objection, form.

20 BY ATTORNEY BROOKS:

21 Q. That's just what the word means?

22 ATTORNEY BORELLI: Same objection.

23 THE WITNESS: That's what the word means.

24 BY ATTORNEY BROOKS:

1 Q. And in this important statement from the  
2 Endocrine Society published just last year drafted by a  
3 whole committee of prominent endocrinologists they say  
4 that sex is an important biological variable, closed  
5 quote. Do you disagree with this statement from the  
6 Endocrine Society?

7 ATTORNEY BORELLI: Objection, form.

8 THE WITNESS: In reading that particular  
9 statement I would agree if they had used the word sex  
10 assigned at birth or something more precise in that  
11 sentence.

12 BY ATTORNEY BROOKS:

13 Q. Well, what they said precisely is sex is a  
14 biological variable. Do you see that language?

15 A. Yeah.

16 Q. Do you agree with that?

17 ATTORNEY BORELLI: Objection, form.

18 THE WITNESS: So in the context of  
19 medicine, when we're talking about sex and we're talking  
20 about --- that's very imprecise. I really think that it  
21 is --- I would --- it's hard for me to use that word  
22 because it is imprecise, as I have mentioned before.

23 BY ATTORNEY BROOKS:

24 Q. So you think this statement from last year from

1 the Endocrine Society in its opening language is so  
2 imprecise that you can't tell me whether you think it is  
3 accurate or not?

4 ATTORNEY BORELLI: Objection, form.

5 THE WITNESS: I would have to read the  
6 entirety of the report and take it within context as I  
7 would with any other language used.

8 BY ATTORNEY BROOKS:

9 Q. Sitting here right now, you're unable to answer  
10 my question as to whether you think it is an accurate  
11 statement that sex is a biological concept?

12 ATTORNEY BORELLI: Objection, form.

13 THE WITNESS: Sex is a biological  
14 concept, yes.

15 BY ATTORNEY BROOKS:

16 Q. And let me take you, in fact, to page 221 of  
17 this document, first column. And there you will see a  
18 heading that begins biological sex, the definition of  
19 male and female.

20 Do you see that?

21 A. Yes.

22 Q. And it begins sex is a biological concept. And  
23 you just said that you think that's a scientifically  
24 true statement.



1 Right?

2 ATTORNEY BORELLI: Objection, form.

3 Could --- could she have an opportunity to read this  
4 section before we continue questioning?

5 ATTORNEY BROOKS: Yes. But I'll ask you  
6 not to coach the witness. I have not denied any  
7 requests, but the witness should make them, not counsel.

8 ATTORNEY BORELLI: The objection stands.  
9 It is appropriate to ask that a witness be able to read  
10 a section of a document before being asked to opine  
11 about the larger meaning of the document.

12 ATTORNEY BROOKS: I believe the witness  
13 threw some more language in this paragraph so that's a  
14 good idea.

15 BY ATTORNEY BROOKS:

16 Q. If you will tell us when you have read that  
17 paragraph.

18 A. Yes. Sorry.

19 Q. You have?

20 A. No, I will tell you.

21 ATTORNEY TYRON: Jake, could you scroll  
22 down a bit, please?

23 THE WITNESS: Okay.

24 BY ATTORNEY BROOKS:

1 Q. In the first paragraph under the heading  
2 biological sex, directing your attention to the  
3 statement did you discuss the statement sex is a  
4 biological concept. Do you see that language?

5 A. I do.

6 Q. And you believe that to be a scientifically  
7 accurate statement?

8 ATTORNEY BORELLI: Objection to form.

9 THE WITNESS: Yes.

10 BY ATTORNEY BROOKS:

11 Q. And in the next sentence this Endocrine Society  
12 statement tells us that, quote, all mammals have two  
13 distinct sexes, closed quote. Do you believe that is  
14 true or scientifically inaccurate?

15 ATTORNEY BORELLI: Objection, form.

16 THE WITNESS: Excuse me. I'm sorry. I'm  
17 trying to find that language.

18 BY ATTORNEY BROOKS:

19 Q. Third line of that paragraph, all mammals have  
20 two distinct sexes. My question is do you believe that  
21 is inaccurate or accurate scientific ---?

22 ATTORNEY BORELLI: Objection, form.

23 THE WITNESS: I still think it is  
24 imprecise.

1 BY ATTORNEY BROOKS:

2 Q. Have you finished your answer?

3 A. Yes. Sorry. My allergies are making me ---.

4 Q. Any time you need a drink.

5 A. Yeah. Sorry about that.

6 Q. Few lines down it says, quote, the classical  
7 biological definition of the two sexes is that females  
8 have ovaries and make larger female gametes, eggs,  
9 whereas the males have testes and male smaller gametes,  
10 sperm. Do you see that language?

11 A. I do.

12 Q. Do you agree that is a fair statement of the  
13 classical biological definition of the two sexes?

14 ATTORNEY BORELLI: Objection, form.

15 THE WITNESS: When you use the word  
16 classical it describes what you would see typically, so  
17 I agree with that statement. It allows for there to be  
18 some variations that may not be classical.

19 BY ATTORNEY BROOKS:

20 Q. And it is accepted as a classical definition  
21 because it is accurate in the overwhelming percentage of  
22 cases.

23 Is that true?

24 ATTORNEY BORELLI: Objection, form.

1                   THE WITNESS: So you know, as I mentioned  
2 before in my papers that I submitted, it --- you know,  
3 the percentage of people with differences of sex  
4 development is low and those would be the individuals  
5 that would not follow typically within this.

6 BY ATTORNEY BROOKS:

7           Q. And those individuals are the overwhelming  
8 majority.

9                   Correct?

10                   ATTORNEY BORELLI: Objection, form.

11                   THE WITNESS: They are the majority.

12 BY ATTORNEY BROOKS:

13           Q. Well more than 99 percent.

14                   Correct?

15                   ATTORNEY BORELLI: Objection, form.

16                   THE WITNESS: I would have to do the math  
17 but that sounds accurate.

18 BY ATTORNEY BROOKS:

19           Q. Let me ask you to turn to page 228. In the  
20 second column, the final paragraph begins on that page,  
21 it reads, quote, sex is an essential part of vertebrate  
22 biology, but gender is a human phenomenon, semicolon.  
23 Sex often influences gender, but gender cannot influence  
24 sex. Do you see that language.

1       A.       What is the first word in the sentence again so  
2 I can find it?

3       Q.       It's on the second column, the final paragraph.

4       A.       Okay.

5       Q.       I'm really just calling your attention to the  
6 first sentence.

7       A.       Yep, read it.

8       Q.       Is there anything in that sentence that you  
9 believe to be inaccurate scientifically?

10                    ATTORNEY BORELLI:   Objection, form.

11                    THE WITNESS:   Again, I think they're  
12 imprecise as primates have gender roles and gendered  
13 activity, so it's not exactly precise.

14   BY ATTORNEY BROOKS:

15       Q.       Anything else about that statement that you want  
16 to say is less than scientifically accurate?

17                    ATTORNEY BORELLI:   Objection, form.

18                    THE WITNESS:   You know, again they use  
19 the word sex without being very specific as to sex  
20 assigned at birth. That's my only other caveat.

21   BY ATTORNEY BROOKS:

22       Q.       If we read that to refer to what the Endocrine  
23 Society determined used in the 2017 Endocrine Society  
24 statement that we looked at, that is, quote,

1 genetic/gonadal sex, then do you you consider this  
2 statement to be accurate?

3 ATTORNEY BORELLI: Objection, form.

4 THE WITNESS: That's not what it says, so  
5 I'll ask you to repeat the question for me.

6 BY ATTORNEY BROOKS:

7 Q. If we assume hypothetically --- I will ask you  
8 to assume that sex as used in this Endocrine Society  
9 2021 document, has the meaning that you, in fact,  
10 explained from the term used in the 2017 Endocrine  
11 Society document that is, quote, genetic/gonadal sex,  
12 closed quote, then you believe this to be --- the  
13 language that I have read to you from the 2021 document  
14 to be accurate?

15 ATTORNEY BORELLI: Objection, form.

16 THE WITNESS: So I believe when I  
17 answered that question --- I believe when I answered  
18 that question sex, gonadal, you know, those are two  
19 parts of it. They have not included the full range of  
20 hormonal or external genitalia to be specific. In my  
21 line of work I would need all of that information to  
22 really pin down things.

23 BY ATTORNEY BROOKS:

24 Q. So your testimony now is that the term

1 genetic/gonadal '17 guidelines is too imprecise for you  
2 really to understand?

3 ATTORNEY BORELLI: Objection, form.

4 THE WITNESS: I think you asked that  
5 question before.

6 BY ATTORNEY BROOKS:

7 Q. And I thought you had said you did understand.  
8 You seem to be changing your testimony.

9 ATTORNEY BORELLI: Objection.

10 THE WITNESS: You can read it back to me  
11 if you --- I think that there's multiple things that are  
12 left out of that particular phrase to describe, you  
13 know, individuals. I can't say something that is, you  
14 know, in my experience and in the literature and in  
15 patients with intersex conditions that are --- that  
16 could be different from that. There --- yeah.

17 BY ATTORNEY BROOKS:

18 Q. If we for a moment focus on individuals who do  
19 not suffer from any disorder of sexual development, then  
20 do you believe the following quote from Endocrine  
21 Society 2021 document is true, and that is, quote, sex  
22 is an essential part of vertebrate biology, but gender  
23 is a human phenomenon, semicolon, sex often influences  
24 gender, comma, but gender cannot influence sex, closed

1 quote?

2 ATTORNEY BORELLI: Objection, form.

3 THE WITNESS: Trying to think, make sure  
4 --- I can't think of an instance right now that makes me  
5 disagree with that statement.

6 BY ATTORNEY BROOKS:

7 Q. Let me take you to the first column on page 228  
8 and there's a heading there that says considering sex  
9 and/or gender as variables in health and disease.

10 Do you see that?

11 A. No. What page are you on?

12 Q. 228 ---

13 A. Yes.

14 Q. --- first column, the heading towards the bottom  
15 of the page.

16 A. Okay.

17 Q. And here they're specifically mentioning sex on  
18 one hand and gender on the other. Do you see that?  
19 This paragraph begins, quote, women and men differ in  
20 many physiological and psychological variables.

21 Do you see that?

22 A. Yes.

23 Q. Do you believe that to be a scientifically  
24 accurate statement?



1                    ATTORNEY BORELLI:  Objection, form.

2                    THE WITNESS:  I think if I were to add  
3 typical, it's saying there is variability.

4                    BY ATTORNEY BROOKS:

5                    Q.        Well, it is saying specifically that women and  
6 men differ from each other in physiological and  
7 psychological ways.

8                    Correct?

9                    ATTORNEY BORELLI:  Objection, form.

10                   THE WITNESS:  That's what it says.

11                   BY ATTORNEY BROOKS:

12                   Q.        And do you believe that to be a scientifically  
13 true statement?

14                   ATTORNEY BORELLI:  Objection, form.

15                   THE WITNESS:  Again, you know, you have  
16 to interpret these in their context of what they are  
17 saying.  Statements.

18                   BY ATTORNEY BROOKS:

19                   Q.        Do you believe it to be true or false that women  
20 and men differ in many physiological and psychological  
21 variables?

22                   ATTORNEY BORELLI:  Objection, form.

23                   THE WITNESS:  All people are different.

24                   BY ATTORNEY BROOKS:

1 Q. Dr. Adkins, do you believe it to be true or  
2 false that women and men as women and men differ from  
3 each other in many physiological and psychological  
4 variables?

5 ATTORNEY BORELLI: Objection to the form.

6 THE WITNESS: So women and men are a  
7 gender assignment, not the biological sex which you  
8 mentioned before. And gender is not necessarily a way  
9 that I would necessarily think is a scientifically  
10 precise way to place that if you're talking about this  
11 particular statement.

12 BY ATTORNEY BROOKS:

13 Q. Is it your belief that the Endocrine Society in  
14 this document in the terms women and men is referring to  
15 gender identity other than biological --- what does the  
16 word physiological mean to you as a doctor?

17 A. The method of function and interaction of all  
18 the parts of the body.

19 Q. It refers to biology, not to the statement of  
20 mind or identity.

21 Correct?

22 ATTORNEY BORELLI: Objection to form.

23 THE WITNESS: I would just agree with  
24 that statement.

1 BY ATTORNEY BROOKS:

2 Q. Let me ask you to turn to page 229.

3 Q. The first full paragraph begins, quote, despite  
4 the fact that biological sex is such a fundamental  
5 source of interest specific variation in anatomy and  
6 physiology, much basic and clinical science has tended o  
7 focus studies on one sex, typically male, closed quote.

8 Do you see that language?

9 A. I do.

10 Q. And do you understand what is meant by  
11 intraspecific variation? Let me offer a suggestion. Do  
12 you understand it to refer to variations within the  
13 human species?

14 ATTORNEY BORELLI: Objection to form.

15 THE WITNESS: I think you know again in  
16 context I would need to intraspecific --- intraspecific  
17 could be between me and you. Isolated in this one  
18 sentence, I would need to take a moment to see if it  
19 better explains it if I were to read further.

20 BY ATTORNEY BROOKS:

21 Q. Do you disagree or agree that biological sex is  
22 a fundamental source of variation in anatomy and  
23 physiology within the human species?

24 ATTORNEY BORELLI: Objection, form.

1                   THE WITNESS: I'm sorry. I got  
2                   sidetracked in my brain. Could you please read the  
3                   question?

4                   BY ATTORNEY BROOKS:

5                   Q. Yes, I can. Do you agree or disagree that  
6                   biological sex is the fundamental source of variation in  
7                   anatomy and physiology within the human cease species?

8                   ATTORNEY BORELLI: Objection, form.

9                   THE WITNESS: There is lots of other  
10                  parts of physiology that are completely unrelated to  
11                  your reproductive system that is more fundamental.

12                  BY ATTORNEY BROOKS:

13                  Q. Dr. Adkins, do you agree or disagree that  
14                  biological sex is a fundamental source of variation in  
15                  anatomy and physiology with human species?

16                  ATTORNEY BORELLI: Objection, form.

17                  THE WITNESS: It is one of the variables  
18                  within variations.

19                  ATTORNEY BROOKS: Let me mark as Exhibit  
20                  8 an infographic, if I can use that term. Exhibit 8?

21                  VIDEOGRAPHER: Excuse me, Counsel. You  
22                  cut out right after Exhibit 8. I didn't hear which  
23                  document that was.

24                  ATTORNEY BROOKS: It is tab 9 and it is a

1 one page infographic, if I may, put out by the National  
2 Institute of Health titled How Sex and Gender Influence  
3 Sex and Disease.

4 ---

5 (Whereupon, Adkins Exhibit 8, NIH  
6 Sex/Gender Infographic, was marked for  
7 identification.)

8 ---

9 BY ATTORNEY BROOKS:

10 Q. And first let me ask, Dr. Adkins, are you  
11 familiar with the National Institute of Health as an  
12 organizations?

13 A. Yes.

14 Q. That is a government research institute?

15 A. Yes.

16 Q. And major grant --- major source of grants,  
17 grant making in the health sciences?

18 A. Yes.

19 Q. And are you --- were you aware that it has  
20 within it an Office of Research on Women's Health?

21 A. No.

22 Q. Do you see that this is published by the  
23 National Institute of Health, Office of Research on  
24 Women's Health?

1 A. Okay.

2 Q. In the box at the top it says, and I quote, sex  
3 is a biological classification included in our DNA.  
4 Males have XY chromosomes and females have XX  
5 chromosomes. Sex makes us male or female. Do you see  
6 that language?

7 A. I do.

8 Q. And it continues, every cell in your body has a  
9 sex making up tissues and organs like your skin, brain,  
10 heart and stomach. Each cell is either male or female  
11 depending on whether you are a man or a woman, closed  
12 quote.

13 Do you see that?

14 A. I do.

15 Q. And then it continues under that with a  
16 definition of gender. So my question is --- begins  
17 here, the opening statement in this NIH publication says  
18 that sex is a biological classification. Do you agree  
19 or disagree with that?

20 ATTORNEY BORELLI: Objection, form.

21 THE WITNESS: You know, there is a whole  
22 literature on --- on this --- the differences in --- in  
23 sex. I --- so biological as opposed to another type of  
24 classification, I agree with that statement.

1 BY ATTORNEY BROOKS:

2 Q. It says a little further along that, quote,  
3 every cell in your body has a sex, closed quote. Do you  
4 agree or disagree with that?

5 ATTORNEY BORELLI: Objection to the form.

6 THE WITNESS: I agree. And each cell can  
7 be different.

8 BY ATTORNEY BROOKS:

9 Q. Are you saying that within an individual --- a  
10 specific individual each cell can have a different sex?

11 A. Yes.

12 Q. This NIH publication tells us that, quote, each  
13 cell is either male or female, closed quote. And I take  
14 it you simply believe the NIH is wrong about that?

15 ATTORNEY BORELLI: Objection, form.

16 THE WITNESS: I think that the nuances  
17 are something that you can't publish in a one-page  
18 documentation when they're not talking about an entire  
19 population.

20 BY ATTORNEY BROOKS:

21 Q. Under this initial box is a heading that says  
22 examples of sex and gender influences. Do you see that?

23 A. I do.

24 Q. And it has various categories of things that may

1 be influenced on one end by sex, which is defined in  
2 this document as a biological classification, and  
3 gender. Do you see that structure of this document?

4 ATTORNEY BORELLI: Objection, form.

5 THE WITNESS: Yeah.

6 BY ATTORNEY BROOKS:

7 Q. And it says if we go down to cardiovascular risk  
8 one of the differences that is identified as based on  
9 sex is that, quote, blood vessels in a woman's heart are  
10 smaller in diameter and much more intricately branched  
11 than those of a man, closed quote. Do you see that?

12 A. Under cardiovascular risk, yeah. Okay.

13 Q. And the NIH gives this as an example of a  
14 physical measurable biological difference that depends  
15 on biological sex.

16 Correct?

17 ATTORNEY BORELLI: Objection, form.

18 THE WITNESS: Well, actually the words  
19 they're using are gender --- gender words, not the words  
20 we would use for sex, you know, female or male or a  
21 variation in between. So I would --- if I were editing  
22 this document, I probably wouldn't have used the word  
23 woman.

24 BY ATTORNEY BROOKS:



1 Q. You would have said a female?

2 A. Typical female.

3 Q. Because what --- how the blood vessels in your  
4 heart are structured depend on your sex, not on your  
5 gender identity. Am I correct?

6 ATTORNEY BORELLI: Objection, form.

7 THE WITNESS: There is many variables  
8 that can affect these things and what --- that is one of  
9 them.

10 BY ATTORNEY BROOKS:

11 Q. To your knowledge, gender identity is not a  
12 variable that affects how the blood vessels in one's  
13 heart are structured, does it?

14 ATTORNEY BORELLI: Objection, form.

15 THE WITNESS: Not that I'm aware of.

16 BY ATTORNEY BROOKS:

17 Q. Under the last item here is knee arthritis. Do  
18 you see that heading?

19 A. Yes.

20 Q. I'm sure we'll have the same terminology  
21 discussion, but the language there says, quote, women  
22 and girls are more likely to injure their knees when  
23 playing sports, closed quote. Do you see that language?

24 A. I do.

1 Q. And if we use the term --- substitute the term  
2 females for women and girls and say females are more  
3 likely to injure their knees when playing sports, do you  
4 believe that to be a scientifically accurate statement?

5 ATTORNEY BORELLI: Objection to form.

6 THE WITNESS: You have to leave some  
7 room. Again, in medicine we're not like 100 percent.  
8 But I agree that portions of females that are typical in  
9 research have been reported to have more frequent knee  
10 injuries.

11 BY ATTORNEY BROOKS:

12 Q. Okay.

13 Let me ask you to find your report, Exhibit 1,  
14 and let's turn to paragraph 15. And there you wrote,  
15 quote, a person's gender identity refers to a person's  
16 inner sense of belonging to a particular gender such as  
17 male or female. And you continue every one has a gender  
18 identity, closed quote. Do you see that language?

19 A. I do.

20 Q. Let me direct your attention to the Endocrine  
21 Society guidelines from 2007, which is Exhibit 4. And  
22 we're going to come back --- if you can make a stack of  
23 most of these, but the 2017 guidelines we will come back  
24 to with some frequency. But we're ---

1 A. Keeping it on top?

2 Q. --- keeping it on top.

3 A. Okay.

4 Q. And there I want to call your attention to page  
5 3873.

6 A. 3873.

7 Q. Right. And in the second column there's a  
8 section headed introduction. And it begins with a  
9 historical review of the concept of gender. And I'm  
10 going to ask you a question beginning with the language  
11 that is two inches from the bottom, two and a half  
12 inches from the bottom that begins these early  
13 researchers. So if you want to kind of glide through  
14 what comes before that, let me know and I'll begin my  
15 questioning.

16 A. Yes, I'll look over it. Thank you.

17 I have read that section.

18 Q. I want to call your attention to a sentence  
19 which my understanding is contrasting against or the  
20 history that begins, quote, some experience themselves  
21 as having both a male and female gender identity whereas  
22 others completely renounce any gender classification,  
23 closed quote. Do you see that language?

24 A. I do.

1 Q. And in your expert opinion, is that an accurate  
2 statement?

3 ATTORNEY BORELLI: Objection, form.

4 THE WITNESS: In my clinical experience I  
5 have met individuals who are --- identify as agender  
6 which would in my mind be similar to this definition,  
7 but I typically ask the patient what their gender means  
8 to them.

9 BY ATTORNEY BROOKS:

10 Q. Well, do you have any opinion as to whether some  
11 individuals experience both a male and female gender  
12 identity?

13 ATTORNEY BORELLI: Objection, form.

14 THE WITNESS: I have patients that do  
15 that, yes.

16 BY ATTORNEY BROOKS:

17 Q. And I think you said that --- I don't want to  
18 puts words in your mouth. Do you have an opinion  
19 whether some individuals report not having any gender,  
20 not fitting any gender classification?

21 ATTORNEY BORELLI: Objection, form.

22 THE WITNESS: I do have patients that  
23 match that description.

24 BY ATTORNEY BROOKS:

1 Q. And this goes on the next sentence to say,  
2 quote, there are also reports of individuals  
3 experiencing a continuous and rapid involuntary  
4 alternation between a male and female identity, closed  
5 quote.

6 Do you see that?

7 A. I do.

8 Q. And do you believe that to be an accurate  
9 statement?

10 ATTORNEY BORELLI: Objection, form.

11 THE WITNESS: I have not had that  
12 clinical experience. I would have to rely on the, you  
13 know, medical report with that in particular, and I  
14 would probably look at the evidence that was available  
15 ---

16 BY ATTORNEY BROOKS:

17 Q. Well ---

18 A. --- prior to making a decision.

19 Q. --- do you as a practitioner consider it  
20 reasonable to rely on that assertion in this 2017  
21 Endocrine Society statement guideline?

22 ATTORNEY BORELLI: Objection, form.

23 THE WITNESS: I would rely on it to be  
24 something I should at least consider.

1                    ATTORNEY BROOKS: Let me mark as Exhibit  
2                    9 what is tab 10, and that is a one-page statement from  
3                    a World Health Organization's website titled Gender and  
4                    Health.

5                    ---  
6                    (Whereupon, Adkins Exhibit 9, World  
7                    Health Organization Webpage, was marked  
8                    for identification.)

9                    ---  
10                  THE WITNESS: Thank you.

11                  BY ATTORNEY BROOKS:

12                  Q. Are you familiar with the World Health  
13                  Organization as an organization?

14                  A. I am.

15                  Q. And do you consider the World Health  
16                  Organization to be generally a respected source of  
17                  information on medical and health topics?

18                  ATTORNEY BORELLI: Objection to form.

19                  THE WITNESS: My general experience so  
20                  far to date is they're reliable.

21                  BY ATTORNEY BROOKS:

22                  Q. Well, I will represent to you that this document  
23                  came off of a World Health Organization website and the  
24                  web address is at the bottom of the page. I see on the

1 copy in front of you --- I'll stand by my representation  
2 of why mine has it ---.

3 A. Okay.

4 Q. This document titled Gender and Health begins  
5 gender refers to the characteristics of women, men,  
6 girls and boys that are socially constructed, closed  
7 quote. Do you see that?

8 A. I do.

9 Q. And is that a definition of gender per se that's  
10 consistent with how you are used to seeing the term  
11 used?

12 ATTORNEY BORELLI: Objection, form.

13 THE WITNESS: So you know, social  
14 constructs change regularly, so I would say that, you  
15 know, that wouldn't be completely inclusive of current  
16 socially constructed genders, in my experience.

17 BY ATTORNEY BROOKS:

18 Q. Well, let me direct --- why don't you read that  
19 whole first paragraph, which is just three sentences,  
20 because I think the World Health Organization raises  
21 exactly that point. So I'll ask you to read that?

22 A. Sure. Sure.

23 ---

24 (WHEREUPON, WITNESS REVIEWS DOCUMENT.)

1

---

2

THE WITNESS: Okay.

3

BY ATTORNEY BROOKS:

4

Q. So extending into that paragraph, that three-sentence paragraph, just that explanation of the concept of gender fit with how you are used to seeing the term used in your professional experience?

8

ATTORNEY BORELLI: Objection, form.

9

THE WITNESS: So in reading that, my understanding of what they are using those specific words, men, women, girls and boys are examples. They don't comment on other societies. Just so --- in that assessment, yes.

14

BY ATTORNEY BROOKS:

15

Q. All right.

16

If we skip down to the third paragraph it begins gender interacts with but is different from sex, which refers to the different biological and psychological characteristics of females, males and intersex persons, such as chromosomes, hormones and reproductive organs, closed quote. Do you see that language?

23

A. I would like to read it, too, though, if you don't mind.

24



1 Q. Sure.

2 A. Yeah. Okay. I have read it.

3 Q. So first, backing up to the statement, opening  
4 paragraph, that gender is socially constructed, do you  
5 believe that to be an accurate statement?

6 ATTORNEY BORELLI: Objection, form.

7 THE WITNESS: Gender is a social  
8 construct, yes.

9 BY ATTORNEY BROOKS:

10 Q. And then in the third paragraph it states that  
11 gender identity refers to a person's deeply felt  
12 internal and individual experience of gender. Do you  
13 see that?

14 A. I do.

15 Q. So gender identity refers to an individual's  
16 experience in relation to gender, which is a social  
17 construct.

18 Right?

19 ATTORNEY BORELLI: Objection, form.

20 THE WITNESS: I see it, and I would ask  
21 you to read the question one more time. I just want to  
22 make sure I'm answering you accurately.

23 BY ATTORNEY BROOKS:

24 Q. As I think I see in this document really the

1 question is as you understand it ---.

2 A. I think that you have to also include ---.

3 COURT REPORTER: Excuse me. I need to  
4 interrupt. Excuse me. I'm sorry to interrupt, but  
5 Counsel, your full question didn't come through on this  
6 end.

7 ATTORNEY BROOKS: I'll re-ask it. Pardon  
8 me.

9 ATTORNEY BORELLI: Actually, why don't we  
10 just address one housekeeping matter. Would you be able  
11 to identify for the record the URL that appears on your  
12 copy and whether there is a date of the document or date  
13 of access just so we have it on the record?

14 ATTORNEY BROOKS: There is no date of  
15 access. That access is within the last two months. The  
16 address is  
17 [www.who.int/health-topics/gender#tabequalstab](http://www.who.int/health-topics/gender#tabequalstab), underline  
18 one.

19 ATTORNEY BORELLI: Thank you.

20 ATTORNEY BROOKS: I'm glad it wasn't one  
21 of these four line ones.

22 BY ATTORNEY BROOKS:

23 Q. And I will re-ask my question.

24 A. Okay.

1 Q. The question is, Dr. Adkins, is it consistent  
2 with your understanding that gender identity refers to a  
3 person's individual experience of gender, which is in  
4 turn a social construct?

5 ATTORNEY BORELLI: Objection, form.

6 THE WITNESS: That doesn't sound to me to  
7 be a full explanation. Just doesn't sound accurate to  
8 me. I'm having a hard time.

9 BY ATTORNEY BROOKS:

10 Q. Then let me not take more time on that.

11 A. Okay.

12 Q. You would agree that gender is a social  
13 construct that can change over time.

14 Am I right?

15 ATTORNEY BORELLI: Objection, form.

16 THE WITNESS: Gender --- so it's a social  
17 construct, it's true. Gender is, you know, how you ---  
18 I mean, it's complicated. It involves more things than  
19 --- and so, you know, if you're talking about gender  
20 expression, that's different. Someone's gender as they  
21 understand it for their gender identity is different. I  
22 mean, I have patients who are assigned a particular sex  
23 and the family and the physicians assign a gender that  
24 is more typically correlated with that sex. And then

1 over time those individuals sometimes don't identify  
2 with that gender, and they may change their gender  
3 marker, for example, because their identity really just  
4 doesn't match what we assigned them at birth. I'm not  
5 sure how to give a clearer answer. I'm trying.

6 BY ATTORNEY BROOKS:

7 Q. Well, so if an individual comes into your office  
8 and asserts a gender identity of, let's say, man or  
9 both, either one of those, how can a clinician verify  
10 whether that individual is accurately understanding his  
11 own or their own subjective feelings?

12 ATTORNEY BORELLI: Objection, form.

13 THE WITNESS: And you know, a gender  
14 again is something that's assigned at birth and it is  
15 what you work with in your life, and so you know, I  
16 would ask them and they could tell me how they were  
17 proceeding in life with regard to their gender  
18 behaviors. That would be how I would probably asses  
19 their gender.

20 BY ATTORNEY BROOKS:

21 Q. How do you ascertain whether that individual who  
22 claims identity of man or both is telling you, the  
23 clinician, the truth?

24 ATTORNEY BORELLI: Objection, form.

1                   THE WITNESS:     So in general, you know,  
2     in pediatrics we have a parental report, and it depends  
3     on the clinical situation. We may or may not have  
4     another health provider's report or a mental health  
5     provider's report. If we have questions, we start to  
6     dig deeper and look at other areas.

7     BY ATTORNEY BROOKS:

8           Q.     Let me call your attention to paragraph 19 in  
9     your expert report, Exhibit 1. And there you refer to  
10    DSM-V definition of gender dysphoria.

11                   Do you see that?

12           A.     What paragraph?

13           Q.     Paragraph 19?

14           A.     Yeah.

15           Q.     And you mention that among other things the  
16     diagnostic criteria under DSM-V for gender dysphoria  
17     includes, quote, clinically significant distress. Do  
18     you see that?

19           A.     I do.

20           Q.     And in fact, it includes clinically significant  
21     distress that, quote, impairs important areas of  
22     functioning, closed quote.

23                   Am I correct? Do you recall that in DSM-V?

24                   ATTORNEY BORELLI:   Objection. Objection

1 to form.

2 THE WITNESS: That is how I recall that.

3 BY ATTORNEY BROOKS:

4 Q. Paragraph right?

5 A. Yeah. I want to reserve the right to look at it  
6 to be certain. That sounds correct to me at this  
7 moment.

8 Q. And what does clinically significant distress  
9 that impairs important areas of functioning look like in  
10 a child?

11 ATTORNEY BORELLI: Objection, form.

12 THE WITNESS: Yeah. So you know, it  
13 depends on what they are coming in with. I mean, for  
14 some of my patients, you know, who are, you know,  
15 hyperthyroid, for example, their brain's run really  
16 fast, they can't focus during school, and that would be  
17 impairment in their ability to do their main job, which  
18 is to be in school and learn. So that's one area where  
19 you can have some impairment in their --- it varies from  
20 patient to patient and in each thing we're talking  
21 about.

22 BY ATTORNEY BROOKS:

23 Q. The example you just gave was impairment  
24 resulting from a hyperthyroid condition.

1 Am I correct?

2 A. Correct.

3 Q. What I asked was impairment due to ---  
4 attributable to what gender dysphoria looks like in a  
5 child.

6 A. Oh.

7 ATTORNEY BORELLI: I don't want to  
8 interrupt. I think there may have been a misreading of  
9 the language in the paragraph, and I just want to make  
10 sure the record is correct that the final sentence of  
11 that paragraph says in order to be diagnosed with gender  
12 dysphoria, incongruence must persist for at least six  
13 months and be accompanied by clinically significant  
14 distress or impairment in social, occupational or other  
15 important area of functioning.

16 BY ATTORNEY BROOKS:

17 Q. I, on the other hand, will ask a question that I  
18 believe is more closely tracked to the DSM-V language,  
19 which is what is clinically significant distress that  
20 impairs important area of functioning look like in a  
21 young child?

22 ATTORNEY BORELLI: Objection, form.

23 THE WITNESS: Okay. I misheard you. I'm  
24 sorry. I didn't hear the gender dysphoria part. I

1 apologize. So in patients with gender dysphoria  
2 sometimes it can be anxiety that keeps them from going  
3 to school. Sometimes it can be anxiety that keeps them  
4 from using public restrooms. Sometimes it is depression  
5 so that they can't get out of bed to function.  
6 Sometimes it's just feeling really uncomfortable and ---  
7 with how they are being treated and what they're allowed  
8 to do in a way that makes it more difficult for them  
9 than a person without gender dysphoria.

10 BY ATTORNEY BROOKS:

11 Q. In your practice is a full diagnosis of gender  
12 dysphoria under the DSM-V criteria a precondition for  
13 recommending or supporting social transitioning?

14 ATTORNEY BORELLI: Objection, form.

15 THE WITNESS: So in my practice the  
16 majority of my patients have socially transitioned  
17 before they come to see me in order to improve their  
18 gender dysphoria. In general, that is something that  
19 their family and their mental health provider decides.  
20 Each individual patient is different and we talk through  
21 whether that is appropriate for each patient.

22 BY ATTORNEY BROOKS:

23 Q. In your practice is a full DSM-V diagnosis of  
24 gender dysphoria a precondition for recommending social



1 transition?

2 ATTORNEY BORELLI: Objection, form.

3 THE WITNESS: No.

4 BY ATTORNEY BROOKS:

5 Q. And in your practice is a full DSM-V gender  
6 dysphoria diagnosis a precondition for prescribing  
7 puberty blockers?

8 ATTORNEY BORELLI: Objection, form.

9 THE WITNESS: I use puberty blockers for  
10 more than one indication.

11 BY ATTORNEY BROOKS:

12 Q. Let me ask a better question. In your practice  
13 is a full DSM-V gender dysphoria diagnosis a  
14 precondition for prescribing puberty blockers as a  
15 treatment for gender dysphoria?

16 ATTORNEY BORELLI: Objection, form.

17 THE WITNESS: So my patients are  
18 evaluated by mental health providers outside the clinic  
19 and inside the clinic. The objective of using puberty  
20 blockers can be used to relieve dysphoria and give them  
21 time to consider their gender identity.

22 BY ATTORNEY BROOKS:

23 Q. In your practice is a full diagnose of gender  
24 dysphoria under the DSM-V criteria a precondition for

1 prescribing puberty blocker for believed gender  
2 dysphoria?

3 ATTORNEY BORELLI: Objection to form.

4 THE WITNESS: Well, in the way that you  
5 stated it, you're saying that the patient already has  
6 gender dysphoria, so yes.

7 BY ATTORNEY BROOKS:

8 Q. In your practice is the full diagnosis of gender  
9 dysphoria under the DSM-V criteria a precondition for  
10 prescribing puberty blockers as a therapy for gender  
11 dysphoria or gender incongruity?

12 ATTORNEY BORELLI: Objection, form.

13 THE WITNESS: Yes.

14 BY ATTORNEY BROOKS:

15 Q. And in your practice is a full diagnosis of  
16 gender dysphoria according to the DSM-V criteria a  
17 precondition for prescribing cross sex hormones?

18 ATTORNEY BORELLI: Objection, form.

19 THE WITNESS: They are used to relieve  
20 dysphoria. Typically that would be what we would use  
21 them to do, is to relieve that dysphoria so they would  
22 have that diagnosis. On occasion in my practice the  
23 incongruence does not necessarily cause dysphoria per  
24 se, and yet they still have significant issues that are

1 impairing their ability to move forward in their lives  
2 in a happy, healthy way. And I might use medications  
3 such as gender-affirming hormones in those cases.

4 BY ATTORNEY BROOKS:

5 Q. So if I understand correctly, you're saying that  
6 at least some cases in your practice you are willing to  
7 prescribe cross sex hormones for individuals who do not  
8 suffer from gender dysphoria according to the criteria  
9 spelled out in DSM-V?

10 ATTORNEY BORELLI: Objection, form.

11 THE WITNESS: Every patient is different.  
12 Most of my patients have gender dysphoria. All of them  
13 have a transgender identity, and I would treat either of  
14 those.

15 BY ATTORNEY BROOKS:

16 Q. I think this question can be answered yes or no.  
17 Do you prescribe cross sex hormones for some patients  
18 who do not suffer from gender dysphoria according to the  
19 DSM-V criteria?

20 ATTORNEY BORELLI: Objection, form.

21 THE WITNESS: I don't think so. I mean,  
22 gender-affirming hormones --- I use hormones for a lot  
23 of different things. Whether you call them gender  
24 affirming or not is --- you know, what is kind of a

1 thing here. I mean, for people with Klinefelter's, who  
2 are clinically significantly depressed because they have  
3 low testosterone, I prescribe testosterone to improve  
4 their mood, their libido, their muscle strength. For  
5 people who have dysphoria or who have a transgender  
6 identity, I do prescribe those medications. I think  
7 that to be precise in my answers I cannot say it as a  
8 yes or no answer.

9 Q. Let me ask you to turn to paragraph ten of your  
10 report. There you say I have treated approximately 500  
11 transgender and intersex young people in my career.

12 Do you see that?

13 A. No, that's not how it's written.

14 Q. I apologize. I was reading to you the second  
15 sentence of paragraph ten, and I believe I read that  
16 ---.

17 A. Okay.

18 I'm sorry. I was starting at the beginning.

19 Q. I understand.

20 A. Yes.

21 Q. And let's break that out. Of those 500,  
22 approximately how many suffered from some form of DSD?

23 ATTORNEY BORELLI: Objection, form.

24 THE WITNESS: So the --- that I know of,

1 because we don't evaluate every person necessarily for  
2 an intersex condition, probably --- gosh, it's hard to  
3 estimate. So I think at least 60 in my clinic and then  
4 probably in the hospital at least 10, 15 a year. At  
5 least one a month or so.

6 BY ATTORNEY BROOKS:

7 Q. Of the 500 transgender intersexual young people  
8 that you treated in your career, how many would you  
9 estimate suffered from some form of disorder of sexual  
10 development?

11 ATTORNEY BORRELLI: Objection, form.

12 THE WITNESS: Off the top of my head I  
13 can think of one. I have reviewed a referral for a  
14 second one. Gosh. With that many patients, that's the  
15 best I can do. Sorry.

16 BY ATTORNEY BROOKS:

17 Q. And I take it then that the overwhelming  
18 majority, almost all the children that you have seen and  
19 treated for gender dysphoria did not suffer from any  
20 disorder of sexual development?

21 A. So at the time of my evaluation of them they  
22 weren't showing any signs of an intersex condition. I  
23 don't necessarily test for intersex conditions on every  
24 person that comes in. Insurance is really kind of funny

1 about paying for that sort of thing because they don't  
2 think it is appropriate to do. So I can't evaluate them  
3 unless they have a symptom of an intersex condition.  
4 Those can present even into your 30s and not be evident  
5 until you are trying to get pregnant. So I think to be  
6 accurate, that's ---.

7 Q. To your knowledge, almost all of the children  
8 that you have treated for gender dysphoria did not show  
9 signs of any intersex condition or disorder of sexual  
10 development?

11 ATTORNEY BORELLI: Objection, form.

12 THE WITNESS: To best of my knowledge.

13 BY ATTORNEY BROOKS:

14 Q. Let me call your attention to page three of your  
15 report, which is on page five. And you say there in the  
16 second sentence, quote, all of my patients have suffered  
17 from persistent gender dysphoria.

18 Do you see that?

19 A. Uh-huh (yes).

20 Q. Now, I just don't understand that because a few  
21 minutes ago you explained to me that some of your  
22 patients suffer from gender dysphoria and some of them  
23 don't. So can you explain to me what you meant by that  
24 statement?

1                    ATTORNEY BORELLI: Objection, form.

2                    THE WITNESS: Yeah. I learn more and  
3 more every day about the patients who come into my  
4 clinic. I did state that most of my patients have  
5 gender dysphoria. I am finding individuals currently in  
6 my practice who aren't necessarily to the point of  
7 having that clinically significant criteria that is  
8 mentioned in the --- for dysphoria that have a  
9 transgender identification. The majority I would say do  
10 have dysphoria.

11 BY ATTORNEY BROOKS:

12            Q. You would now say the majority rather than all?

13                    ATTORNEY BORELLI: Objection, form.

14                    THE WITNESS: I can't think of --- yeah,  
15 I would say the majority. There would be a very rare  
16 instance and that's why I mentioned it before.

17                    ATTORNEY BORELLI: Counsel, just a quick  
18 question about timing and a potential break because  
19 we've been going for a little while.

20                    ATTORNEY BROOKS: Right. I'm inclined to  
21 go --- like from my experience, if you stop early for  
22 lunch, then it's an awful long afternoon. So I'd be  
23 inclined to go until 12:30 or so and then break for  
24 lunch.

1                   ATTORNEY BORELLI: Does that work for  
2 you? Would you like a break now before we later break  
3 for lunch or what is best for you, Dr. Adkins?

4                   THE WITNESS: Well, since I'm not a  
5 breakfast eater, I would prefer to go a little bit  
6 earlier if we can.

7                   ATTORNEY BROOKS: We can do it. I just  
8 warn you it gets to be a long afternoon.

9                   THE WITNESS: I understand.

10                  ATTORNEY BROOKS: Let me finish up the  
11 line of questioning. Well, should we target noon to  
12 stop for lunch?

13                  THE WITNESS: That's fine. Thank you.

14 BY ATTORNEY BROOKS:

15           Q. Let me take you back to the Endocrine Society  
16 statement on --- back to the biological variable, which  
17 is Exhibit 7. If you would find that, please. And I'll  
18 ask you to turn to page 225, second column towards the  
19 bottom with the heading that reads biological basis of  
20 diversity and sexual/gender development and orientation.

21                   Do you see that?

22           A. I do.

23           Q. And it reads at the beginning given the  
24 complexities of the biology of sexual determination and



1 differentiation, comma, it is not surprising that there  
2 are dozens of examples of variations or errors in these  
3 pathways associated with genetic mutations that are now  
4 well known to endocrinologists and geneticists. In  
5 medicine these situations are generally termed disorders  
6 of sexual development or differences in sexual  
7 development, closed quote.

8 Do you see that?

9 A. Yes.

10 Q. Now, in your opinion, a transgender identity is  
11 not a disorder.

12 Am I right?

13 A. It is a normal variation, in my opinion, of huma  
14 --- of humans in general.

15 Q. It's not a mental disorder?

16 ATTORNEY BORELLI: Objection, form.

17 THE WITNESS: So you know, they have in  
18 the past included it in the DSM, which is categorized as  
19 those sorts of things. As far as like psychological,  
20 there's such over lap between psychological and the  
21 physical --- I guess the best word I can use, but that  
22 it's hard to --- it's hard to say. You know, I think  
23 people are moving more towards that it is more of a  
24 medical problem that is occurring within the person that

1 is giving them psychological symptoms that we see, which  
2 is really common in medicine. We see lots of different  
3 medical conditions caused psychological symptoms. I  
4 already mentioned one with hypothyroidism.

5 Q. In the overwhelming number of cases, transgender  
6 identification is not associated with any physical  
7 disorder that you as a doctor have become aware of?

8 ATTORNEY BORELLI: Objection, form.

9 THE WITNESS: I'm sorry. I got  
10 distracted. Can you repeat it?

11 BY ATTORNEY BROOKS:

12 Q. Yes. In the overwhelming majority of patients  
13 that you have seen, the transgender identity is not  
14 associated with any physical disorder that you are aware  
15 of.

16 Correct?

17 ATTORNEY BORELLI: Objection, form.

18 THE WITNESS: I mean, I'm going to need a  
19 minute to think because I have seen so many patients  
20 that I don't --- I guess it sort of depends on how you  
21 define that, right. I am --- distress is physical and  
22 psychological. The difference is physical in that  
23 they're biologically assigned sex and those  
24 characteristics associated are different from their

1 gender identity. So it's a bit of a mixture.

2 BY ATTORNEY BROOKS:

3 Q. Many individuals who suffer from disorder of  
4 sexual development do not experience gender identity  
5 that is discordant with their chromosomal sex.

6 Correct?

7 ATTORNEY BORELLI: Objection, form.

8 THE WITNESS: Some do, yes. That is true  
9 for some.

10 BY ATTORNEY BROOKS:

11 Q. Many individuals who experience a transgender  
12 identity --- I'm sorry. Many individuals who suffer  
13 from a disorder of sexual development do not experience  
14 a gender identity that is discordant with their  
15 chromosomal sex.

16 Correct?

17 ATTORNEY BORELLI: Objection to form.

18 THE WITNESS: So there's, you know, like  
19 100 different variations. Some are more likely to have  
20 questions about their gender identity than others. It  
21 varies by diagnosis.

22 BY ATTORNEY BROOKS:

23 Q. Okay.

24 But my question is a high level one. It is

1 true, is it not, that many individuals who suffer from a  
2 disorder of sexual development do not experience gender  
3 identity that is discordant with their chromosomal sex?

4 ATTORNEY BORELLI: Objection, form.

5 THE WITNESS: In the medical literature  
6 the reports vary. Some of the conditions are 90 of them  
7 their identity matches with their chromosomal sex and in  
8 some cases it's like 30 to 40 percent.

9 BY ATTORNEY BROOKS:

10 Q. And as you have testified, many individuals who  
11 experience transgender identity do not suffer from any  
12 identified disorders of sexual development?

13 ATTORNEY BORELLI: Objection, form.

14 THE WITNESS: I answered that question  
15 already, yeah.

16 BY ATTORNEY BROOKS:

17 Q. The answer is yes?

18 A. Yes, I answered the question already.

19 Q. For clarity I would like you to answer it again.

20 ATTORNEY BORELLI: Objection, form.

21 THE WITNESS: Can you repeat it then?

22 BY ATTORNEY BROOKS:

23 Q. Yes. Many individuals who experience a  
24 transgender identity do not suffer from any known

1 disorder of sexual development?

2 ATTORNEY BORELLI: Objection, form.

3 THE WITNESS: In my experience that is  
4 true.

5 BY ATTORNEY BROOKS:

6 Q. You have no knowledge as to the number of  
7 children who suffer from a disorder of sexual  
8 development who presently attend schools or colleges in  
9 West Virginia, do you?

10 ATTORNEY BORELLI: Objection, form.

11 THE WITNESS: I can only rely on the  
12 prevalence that's recorded in the medical literature and  
13 then assume that West Virginia has the population base  
14 that is similar to those medical reports.

15 BY ATTORNEY BROOKS:

16 Q. You, yourself, don't have any actual knowledge  
17 either way on that.

18 Correct?

19 ATTORNEY BORELLI: Objection, form.

20 THE WITNESS: I have not been given a  
21 list of the number of individuals, no.

22 BY ATTORNEY BROOKS:

23 Q. And you are not opining that B.P.J. suffers from  
24 any disorder of sexual development, are you?

1 ATTORNEY BORELLI: Objection, form.

2 THE WITNESS: I don't know B.P.J.. I  
3 have not evaluated B.P.J.. I can't say that about  
4 B.P.J..

5 BY ATTORNEY BROOKS:

6 Q. And in fact, you don't know whether any child  
7 who is chromosomally XY but suffers from a disorder of  
8 sexual development has ever sought to compete in female  
9 athletics in West Virginia, do you?

10 ATTORNEY BORELLI: Objection to form.

11 THE WITNESS: There are so many people  
12 who have competed or tried to compete over the years. I  
13 have not seen a documentation specifically of West  
14 Virginia. It's common in athletics.

15 BY ATTORNEY BROOKS:

16 Q. You are not aware of a single case that has ever  
17 occurred in West Virginia of a chromosomally XY child  
18 seeking to compete in female athletics based on a ---  
19 let me ask that question again. You're not aware of any  
20 specific instance in which an X --- chromosomally XY  
21 child who suffers from a disorder of sexual development  
22 has sought to compete in female athletics in West  
23 Virginia up to the present?

24 ATTORNEY BORELLI: Objection to form.

1                   THE WITNESS: So some people die with  
2 chromosomes XY and look completely female and never  
3 knew. So I can't say that anyone could definitely say  
4 that, including myself.

5 BY ATTORNEY BROOKS:

6           Q. Well, my question was you are not aware of any  
7 case of an XY individual who suffered from a disorder of  
8 sexual development seeking to compete in female  
9 athletics in West Virginia.

10                   Right?

11                   ATTORNEY BORELLI: Objection to form.

12                   THE WITNESS: Correct.

13 BY ATTORNEY BROOKS:

14           Q. And so let me ask you --- a substantial portion  
15 of your expert report goes into all sorts of detail  
16 about disorders of sexual development.

17                   Correct?

18           A. Correct.

19           Q. In your understanding, what is the point? What  
20 does that have to do with any opinion you are offering  
21 about issues in this case?

22                   ATTORNEY BORELLI: Objection, form.

23                   THE WITNESS: So the folks who have  
24 differences of sex development have really been our tool

1 within medicine to understand gender identity and how it  
2 developed over time, especially when there may be some  
3 difference in the effects of the chromosomes, the  
4 hormonal expression and the biological external  
5 reproductive genitalia. And it elicits --- kind of  
6 shows us that there can be some variations that identity  
7 that you might have --- I'm sorry, sex that you might  
8 assign at birth based on one of these categorical things  
9 or a mixture of them may not be exactly what a person  
10 identifies at birth.

11 For example, there are individuals who  
12 are born who never had any hormones, they don't have  
13 external genitalia at all when they're born, and so how  
14 do you decide what sex to assign that person and thus  
15 what gender to assign that person, and so it --- it  
16 helps us understand that there are lots of different  
17 things that go into determining a gender identity and  
18 you may not know it right at birth, certainly not at  
19 conception, but you may begin to understand it as the  
20 person grows older.

21 And so it's important to know that  
22 because when there are differences between those two  
23 things it can cause significant distress and harm to the  
24 individual as they get older if those two are not



1 matching.

2 BY ATTORNEY BROOKS:

3 Q. Let me take you to paragraph 28 of your expert  
4 report. At the end of that paragraph you state I know  
5 from experience with my patients that it can be  
6 extremely harmful for transgender youth to be excluded  
7 from the team consistent with their transgender  
8 identity. Do you see that?

9 A. It actually says with their gender identity.

10 Q. If I misspoke, I apologize. For the record, let  
11 me just do it again. Quote, I know from experience with  
12 my patients that it can be extremely harmful for  
13 transgender youth to be excluded from the team  
14 consistent with their gender identity, closed quote.

15 Do you see that language?

16 A. I do.

17 Q. Let me just ask were you a varsity high school  
18 or college athlete yourself?

19 ATTORNEY BORELLI: Objection, form.

20 THE WITNESS: I was.

21 BY ATTORNEY BROOKS:

22 Q. Now, let me ask what you understand to be the  
23 significance of that statement, that is are you offering  
24 an opinion in this litigation that the West Virginia law

1 is unreasonable to the extent that it prevents even a  
2 single transgender youth from playing in a division  
3 consistent with their gender identity?

4 ATTORNEY BORELLI: Objection, form.

5 THE WITNESS: I'm sorry. That wasn't  
6 clear. Can you ---?

7 BY ATTORNEY BROOKS:

8 Q. Are you offering an opinion that the West  
9 Virginia law is unreasonable to the extent it prevents  
10 even a single transgender youth from playing in the  
11 division consistent with their gender identity?

12 ATTORNEY BORELLI: Objection, form.

13 THE WITNESS: Yes.

14 BY ATTORNEY BROOKS:

15 Q. Are you offering an opinion that West Virginia  
16 does not have a strong interest in ensuring fair and  
17 safe competition for females in their schools and  
18 universities?

19 ATTORNEY BORELLI: Objection, form.

20 THE WITNESS: I think that would require  
21 me to have to, you know, talk with them about that and  
22 understand a little bit better. I would hope it would  
23 be every one that they were trying to keep safe.

24 BY ATTORNEY BROOKS:

1 Q. Are you offering an opinion that West Virginia  
2 law is not a reasonable measure to ensure fair and safe  
3 competition for females in schools and colleges?

4 ATTORNEY BORELLI: Objection, form.

5 THE WITNESS: Again, the language is ---  
6 it's not really clear with the female who uses the word  
7 female. It's like using the word sex. It's just not  
8 clear.

9 BY ATTORNEY BROOKS:

10 Q. Dr. Adkins, I used the word female because  
11 earlier in one of these papers where it said woman you  
12 said it would work if they said female as a sex  
13 indicator to be distinguished from gender identity.

14 Do you recall that testimony?

15 A. I do.

16 Q. Let me ask the question again using the term  
17 female in the way that you meant in that earlier  
18 testimony. Are you offering an opinion that the West  
19 Virginia law is not a reasonable measure to ensure fair  
20 and safe competition for females in schools and colleges  
21 in West Virginia?

22 ATTORNEY BORELLI: Objection, form.

23 THE WITNESS: Yes.

24 BY ATTORNEY BROOKS:

1 Q. Can you tell me the examples that you had in  
2 mind when you said I know from experience that it can be  
3 extremely harmful for transgender youth to be excluded  
4 from the team consistent with their gender identity?

5 A. I can.

6 Q. Please do.

7 A. I have patients who have participated in sports  
8 with the teams that they identify as. Their fellow  
9 students only know them as the gender that they identify  
10 with and that they express. If they were asked to  
11 participate on a team that matched their sex assigned at  
12 birth, then these individuals would, for one, would be  
13 on the boys' team and then everyone in school would know  
14 that they were transgender. They don't have to know  
15 that. It is not any of their business.

16 Once they are identified as transgender, they  
17 are at high risk for being bullied, harassed, sexually  
18 assaulted, and leaving school, which leads to poor jobs,  
19 poor insurance, homelessness. There are any number of  
20 reasons that I would want my patient to be able to  
21 participate on the team that identifies with their  
22 gender identity to keep them healthy.

23 Q. Dr. Adkins, your answer said if they were  
24 required to play on the team corresponding to their I'll

1 say chromosomal sex, their natal sex, which suggests you  
2 have not actually seen it happen. Is there a single  
3 case you can point me to in which you have observed a  
4 patient harmed by being excluded from the team  
5 consistent with their gender identity?

6 A. Yes.

7 Q. Can you tell me that area?

8 ATTORNEY BORELLI: Objection, form.

9 THE WITNESS: Well, one of my patients  
10 who had been on middle school sports teams that matched  
11 their gender identity was then asked to change. And  
12 they didn't feel comfortable going with the other  
13 individuals because their identity would be discovered,  
14 their --- individuals would know that they were  
15 transgender. No one at the time knew and still to this  
16 day don't know because they chose not to participate  
17 rather than be on the team that didn't match their  
18 gender identity.

19 BY ATTORNEY BROOKS:

20 Q. And when and what state did these events occur?

21 A. North Carolina.

22 ATTORNEY BORELLI: Objection to form.

23 BY ATTORNEY BROOKS:

24 Q. That's where, when? That's your Counsel's

1 objection.

2 A. North Carolina in --- for this particular  
3 patient, three years ago. I have patients that come in  
4 every day who this applies.

5 Q. Dr. Adkins, given that you're testifying under  
6 oath and trying to be accurate, is it true that you have  
7 patients come in every day that this applies to?

8 ATTORNEY BORELLI: Objection, form.

9 BY ATTORNEY BROOKS:

10 Q. Aren't we getting a little carried away here?

11 ATTORNEY BORELLI: Objection, form.

12 THE WITNESS: I do like to be precise.

13 BY ATTORNEY BROOKS:

14 Q. Thank you.

15 A. In clinic, most days when I'm in clinic I see a  
16 patient who doesn't participate in athletics because of  
17 the requirement that they go to participate in an area  
18 that is for their assigned sex at birth. Most days I'm  
19 in a gender clinic.

20 Q. And what you state in your document, in your  
21 report here, is that you know from experience that being  
22 excluded from the team consistent with their gender  
23 identity can be, quote, extremely harmful to transgender  
24 youth. You have described to me students who choose not

1 to participate in athletics. Beyond that, can you give  
2 me examples of extreme harm that has resulted from such  
3 policies?

4 ATTORNEY BORELLI: Objection, form.

5 THE WITNESS: You know, some of that  
6 would require a bit of speculation because I wouldn't  
7 know what would happen to those individuals if they  
8 remain in the sport.

9 BY ATTORNEY BROOKS:

10 Q. I'm not asking you to speculate.

11 A. So can you re-ask the question so I can kind of  
12 figure out how to answer it better.

13 Q. I'll re-ask it and maybe that you're not able to  
14 answer it, but can you identify for me specific extreme  
15 harm that individual patients have suffered as a result  
16 of not being able to participate in the team consistent  
17 with their gender identity?

18 ATTORNEY BORELLI: Objection, form.

19 THE WITNESS: So I have had patients who  
20 have no longer participated in sports, gained weight,  
21 become obese and developed type two diabetes. I have  
22 seen that around --- I can think of at least two  
23 examples. And then, you know, that's a chronic life  
24 long disease that can lead to amputation and all kinds

1 of other harms. And let's see, what other things.

2 I have seen patients with --- who were no  
3 longer happy at their school and because the time that  
4 they were identified as transgender were asked to leave  
5 their sport, their friend groups changed. And you know,  
6 it's tough in school. There are kids who have --- and  
7 that kind of can push them down the slope of suicidal  
8 ideation and depression and those sorts of things. I  
9 mean, I have to think longer for other examples. Those  
10 are two.

11 BY ATTORNEY BROOKS:

12 Q. Rather than starting something else, should we  
13 break now for lunch?

14 ATTORNEY BORELLI: That works.

15 VIDEOGRAPHER: Going off the record. The  
16 current time reads 11:54 a.m. Eastern Standard Time.

17 OFF VIDEO

18 ---

19 (WHEREUPON, A PAUSE IN THE RECORD WAS HELD.)

20 ---

21 ON VIDEO

22 VIDEOGRAPHER: We're back on the record.

23 Current time reads 12:57 p.m. Eastern Standard Time.

24 BY ATTORNEY BROOKS:



1 Q. Okay.

2 Dr. Adkins, welcome back from lunch. On we go.  
3 We're going to have a long afternoon. Let me mark as  
4 Exhibit 10 what we have previously identified as tab 16,  
5 which is an article dated January 10, 2022 from the  
6 Washington Post entitled A Transgender College Swimmer  
7 is Shattering Records, Sparking a Debate Over Fairness.

8 ---

9 (Whereupon, Adkins Exhibit 10, 1/10/22  
10 Washington Post Article, was marked for  
11 identification.)

12 ---

13 BY ATTORNEY BROOKS:

14 Q. Dr. Adkins, let me just ask generally, you're  
15 aware of recent events in the news involving Leah  
16 Thomas's competition in NCAA swimming.

17 Correct?

18 ATTORNEY BORELLI: Objection, form.

19 THE WITNESS: I am aware of various  
20 pieces of that.

21 BY ATTORNEY BROOKS:

22 Q. And I'm not going to try to turn you into an  
23 expert on Lia Thomas, but you're just aware of that  
24 narrative. Are you generally aware that at least until

1 recently the NCAA policy for a decade at the collegiate  
2 level was that XX --- XY individuals, males, to use that  
3 terminology, could compete based on gender identity in  
4 women's divisions only after they had suppressed  
5 testosterone for at least a year?

6 ATTORNEY BORELLI: Objection, form.

7 THE WITNESS: I don't know the details of  
8 NCAA. I just don't.

9 BY ATTORNEY BROOKS:

10 Q. Are you aware generally that some athletic  
11 leagues have a requirement that biological males may  
12 compete in women's athletics based on gender identity  
13 only after suppressing testosterone for some period of  
14 time?

15 ATTORNEY BORELLI: Objection, form.

16 THE WITNESS: I have heard that there are  
17 individuals who are allowed to participate based on  
18 their gender identity and that there's some comment  
19 about hormone suppression.

20 BY ATTORNEY BROOKS:

21 Q. And do you have college-age transgender patients  
22 yourself?

23 A. I do.

24 Q. Does your statement that we looked at in

1 paragraph 28 of your report that it can be extremely  
2 harmful for transgender youth to be excluded from the  
3 team consistent with their gender identity hold true in  
4 your opinion at to collegiate level? And I was quoting  
5 from paragraph 29.

6 ATTORNEY BORELLI: To clarify, you just  
7 said 29 --- 28, paragraph 28?

8 ATTORNEY BROOKS: It is paragraph 28. I  
9 apologize.

10 ATTORNEY BORELLI: Thank you. I can't  
11 remember if I lodged an objection. Objection to form.

12 THE WITNESS: And the question was?

13 BY ATTORNEY BROOKS:

14 Q. The question was does your assertion in  
15 paragraph 28 of your report that you know from  
16 experience the patients --- that it can be extremely  
17 harmful for transgender youth to be excluded from the  
18 team consistent with their gender identity apply to  
19 college-age individuals as well as high school or  
20 younger individuals?

21 ATTORNEY BORELLI: Objection, form.

22 THE WITNESS: In my experience, that ---  
23 yes.

24 BY ATTORNEY BROOKS:

1 Q. Do you have any opinion as to whether a policy  
2 that requires biologically male athletes to suppress  
3 testosterone for a certain period of time or to a  
4 certain level of testosterone prior to competing in  
5 women's or girls' athletics is reasonable or  
6 unreasonable?

7 ATTORNEY BORELLI: Objection, form.

8 THE WITNESS: So you're asking me if  
9 that's my opinion? I'm sorry. Could you just repeat  
10 the question?

11 BY ATTORNEY BROOKS:

12 Q. Do you have an opinion --- do you have an  
13 opinion as to whether a policy that requires  
14 biologically male athletes to suppress testosterone  
15 either for a certain period of time or down to a certain  
16 level before they can be eligible to compete in women's  
17 athletics based on gender identity is reasonable or  
18 unreasonable?

19 ATTORNEY BORELLI: Objection, form.

20 THE WITNESS: It gets tricky. I am ---  
21 you know, when you start throwing in sort of people with  
22 PCOS and people with intersex conditions and --- it gets  
23 tricky. So it's harder for me to answer.

24 I think the question was do I have an

1 opinion if it's reasonable or not reasonable? Is that  
2 the question?

3 BY ATTORNEY BROOKS:

4 Q. That is.

5 A. Okay.

6 In some cases it might be reasonable and some  
7 cases it might not be reasonable.

8 Q. If we put on one side and exclude from  
9 consideration individuals who suffer from any form of  
10 disorder of sexual development, do you believe that a  
11 policy that requires biologically male athletes to  
12 suppress testosterone either for a certain period of  
13 time or down to a certain level before they can be  
14 eligible to play in women's athletics based on gender  
15 identity is reasonable or unreasonable?

16 ATTORNEY BORELLI: Objection, form.

17 THE WITNESS: So you know, for those who  
18 are assigned male at birth, it depends on where they  
19 are, you know, and what sport they're doing and what's  
20 involved. There are a number of caveats that could be  
21 thrown in there along those lines.

22 BY ATTORNEY BROOKS:

23 Q. Is it you don't know what you think about that?

24 ATTORNEY BORELLI: Objection to form.

1                   THE WITNESS: I think you misunderstood  
2 the answer that I gave. It would really depend on a  
3 specific case.

4 BY ATTORNEY BROOKS:

5           Q. Well, let's look at a specific case. I have put  
6 in front of you Exhibit 10, this Washington Post article  
7 from January 10, 2022 about Lia Thomas, who, according  
8 to the headline, is shattering records. Let me ask you  
9 to turn in that article to page three. And there it ---  
10 if we look at the third paragraph, the one that begins  
11 her fastest 200 yard freestyle, and the second sentence  
12 --- or the third sentence says that's the fastest time  
13 by any female college swimmer this year, .64 seconds  
14 faster than Olympian Torri Huske. And it continues,  
15 quote, Thomas has also posted the nation's best 500 yard  
16 freestyle, timed this season at four minutes, 34.06  
17 seconds, nearly three seconds faster than Olympian  
18 Brooke Forde.

19                   Do you see that?

20           A. Uh-huh (yes).

21           Q. And these records were set after Lia Thomas had  
22 qualified under the NCAA requirement of testosterone  
23 suppression for one year. So my question on the  
24 specific sport for you is, is it your view that a policy

1 that permits Thomas to compete in the women's division  
2 against competitors who are biologically female is fair?

3 ATTORNEY BORELLI: Objection, form.

4 THE WITNESS: So you will note in the  
5 paragraph above it also says that her time slowed down  
6 once she had this happened and she was suppressing her  
7 testosterone. You know, I --- I don't want to use that  
8 word. There are so many things that go into athletic  
9 performance and your time that's not totally related to  
10 your sex assignment at birth or your current hormonal  
11 status, practice, you know, training, whether you had an  
12 opportunity to get started at a young age, a lot of  
13 variables that aren't related to their current hormones.

14 BY ATTORNEY BROOKS:

15 Q. Do you have an opinion as to whether a policy  
16 that permits Lia Thomas to compete against those born  
17 female in swimming is fair?

18 ATTORNEY BORELLI: Objection to form.  
19 Counsel, I think we're starting to get outside the  
20 scope. The witness can answer this question if she can,  
21 but we're treading on that territory.

22 THE WITNESS: So in that there are very  
23 few transgender individuals who are involved and there  
24 are lots and lots and lots of opportunities for those

1 assigned female at birth to compete, I think it is fair.

2 BY ATTORNEY BROOKS:

3 Q. And let me call your attention two paragraphs  
4 down where it begins everybody wants, and quoting  
5 Michael Joyner, who identifies as a physiologist at the  
6 Mayo Clinic. Are you familiar with the reputation of  
7 the Mayo Clinic?

8 A. Yes.

9 Q. It is a high reputation.

10 Am I correct?

11 ATTORNEY BORELLI: Objection, form.

12 THE WITNESS: In general, people think it  
13 has a good reputation.

14 BY ATTORNEY BROOKS:

15 Q. If you read this paragraph, Dr. Joyner says,  
16 quote, everybody wants to maximize each individual's  
17 opportunity to participate and be as inclusive as  
18 possible, one of the researchers, Michael Joyner, a  
19 physiologist at the Mayo Clinic, said in an interview.  
20 And his quote continues, but how do you balance that  
21 inclusion at the individual level with the fairness to  
22 the entire field? That's really the split the baby  
23 question, closed quote.

24 Do you see that language?



1           A.       I do.

2           Q.       Do you agree that the question of fairness that  
3 Dr. Joyner addresses there is, in fact, a tough question  
4 on which reasonable people could disagree?

5                    ATTORNEY BORELLI:   Objection, form.   And  
6 counsel, I need to renew my objection as to scope.

7                    ATTORNEY BROOKS:   You can have a standing  
8 objection as to scope, but I can pursue this line of  
9 questioning.

10                   THE WITNESS:   I would like to take a  
11 moment to read the whole article, please.

12                   ATTORNEY BORELLI:   Counsel, can you point  
13 me to the portion of the report where she offers  
14 opinions about things?

15                   ATTORNEY BROOKS:   She has offered the  
16 opinion in the report that denying participation is  
17 extremely harmful.   She has testified on the record that  
18 in her view, a policy that permits even one transgender  
19 individual from playing according to their gender  
20 identity, that she has an opinion, but she is offering  
21 an opinion that that is an unreasonable policy.   I  
22 intend to examine that thoroughly.   Scope is not tightly  
23 limited on expert depositions, I assure you.

24                   ATTORNEY BORELLI:   I'm going to stand on

1 my objection. We'll see where the line of questioning  
2 goes and we'll confer again if we need to.

3 ATTORNEY TRYON: This is Dave Tryon. I  
4 would ask that if there are further speaking objections  
5 or discussions about scope, it be done outside the  
6 presence of the witness.

7 BY ATTORNEY BROOKS:

8 Q. Let me ask you this without taking the time ---  
9 without reading the entire document, do you agree or  
10 disagree with Doctor Joyner that the question of whether  
11 a biologically male individual such as Lia Thomas should  
12 be permitted to compete in the women's division against  
13 biological females is a tough question that reasonable  
14 people can differ?

15 ATTORNEY BORELLI: Objection to form.

16 ATTORNEY BROOKS: That's enough. That's  
17 all you may say.

18 ATTORNEY BORELLI: Excuse me. Counsel,  
19 the witness has ---.

20 ATTORNEY BROOKS: You may say objection  
21 to form.

22 ATTORNEY BORELLI: The witness has ---  
23 the witness asked to read the entire document.

24 ATTORNEY BROOKS: I am asking a question

1 free and apart from the document. And I'm entitled to  
2 do that.

3 ATTORNEY BORELLI: I'm not persuaded that  
4 this is free and apart from the document.

5 ATTORNEY BROOKS: I will make it 100  
6 percent apart from the document.

7 ATTORNEY BORELLI: Can you please restate  
8 the question to do that? Thank you.

9 BY ATTORNEY BROOKS:

10 Q. Dr. Adkins, do you agree that the question of  
11 whether a biological male such as Lia Thomas should be  
12 permitted to compete against biological females in the  
13 collegiate level is a tough question on which reasonable  
14 people can differ?

15 ATTORNEY BORELLI: Objection, form.  
16 Counsel, you just put an article ---.

17 ATTORNEY BROOKS: That's enough of the  
18 speaking objection. I can take the article back away  
19 from the witness. My question makes no reference to the  
20 article.

21 ATTORNEY BORELLI: Your question makes  
22 reference to ---.

23 ATTORNEY BROOKS: Counsel, that's enough  
24 speaking objections. You are violating the Federal

1 Rules.

2 ATTORNEY BORELLI: I strongly disagree  
3 with that characterization. I don't think that's  
4 correct. You're asking questions about a subject of the  
5 article. Physically removing the article from the  
6 witness doesn't remove that question from the subject of  
7 the article.

8 ATTORNEY BROOKS: I don't have to show  
9 the witness every article about a topic. The witness is  
10 aware of Lia Thomas. I'm asking a question about Lia  
11 Thomas and competitive swimming. The witness can  
12 answer.

13 ATTORNEY BORELLI: I stand on my  
14 objection.

15 ATTORNEY BROOKS: You can do so.

16 THE WITNESS: Sorry. Thank you.

17 You know, everybody has their opinion  
18 based on their experience and their knowledge and  
19 they're allowed to state that and confer with others  
20 about it. Whether or not it is reasonable is a whole  
21 other question, and that involves perspective and  
22 background. So with that caveat, I could see people  
23 having different opinions on this particular matter.

24 BY ATTORNEY BROOKS:

1 Q. Thank you.

2 ATTORNEY BROOKS: Can we mark as Exhibit  
3 11 a document previously identified as tab 17, article  
4 from the publication named Out Sports that is dated  
5 January 9, 2022.

6 ---

7 (Whereupon, Adkins Exhibit 11, 1/9/22  
8 Out Sports Article, was marked for  
9 identification.)

10 ---

11 BY ATTORNEY BROOKS:

12 Q. Dr. Adkins, have you heard the name Iszac Henig?

13 A. No.

14 Q. Did you hear any news items that a transgender  
15 male competing in the female division that is genetic  
16 female, male identity, transgender male competing in the  
17 female division, beat Lia Thomas, a transgender female  
18 competing in the female division, in certain races?  
19 Have you heard that?

20 A. No.

21 ATTORNEY BORELLI: Objection, form.

22 BY ATTORNEY BROOKS:

23 Q. All right.

24 You stated in paragraph 28 that it can be

1 harmful for patients, deeply harmful, for transgender  
2 youth to be excluded from the team consistent with their  
3 gender identity. In your view is a policy that requires  
4 transgender youth who are biologically male to suppress  
5 testosterone before they can be eligible to compete on a  
6 team consistent with their gender identity extremely  
7 harmful to youth?

8 ATTORNEY BORELLI: Objection, form.

9 THE WITNESS: I was trying to catch up  
10 with you with finding the page.

11 BY ATTORNEY BROOKS:

12 Q. That was a complicated question. I will ask it  
13 again.

14 A. Thank you.

15 Q. In your view is a policy that requires a  
16 biological male who experiences a female gender identity  
17 to suppress testosterone prior to becoming eligible to  
18 compete in the women's division extremely harmful?

19 ATTORNEY BORELLI: Objection, form.

20 THE WITNESS: Suppression of the  
21 testosterone for my practice isn't the --- you know, the  
22 harm. It is the exclusion that does most of the harm.  
23 I think I answered that.

24 BY ATTORNEY BROOKS:

1 Q. Let me try to --- in light of what you just  
2 said, let me ask a better question. In your view, is a  
3 policy that excludes a biological male who identifies as  
4 a woman from competition in the women's division unless  
5 and until that biological male has suppressed  
6 testosterone extremely harmful?

7 ATTORNEY BORELLI: Objection to form.

8 THE WITNESS: So the sex assigned at  
9 birth for this person would be male and would need time  
10 to suppress testosterone, which takes time and leads to  
11 limitations in participation of sports, in competition.  
12 I think that disadvantages most athletes if they have to  
13 take time off for any kind of medical treatment for  
14 their preparation. In that fashion it would be harmful  
15 to the athlete.

16 BY ATTORNEY BROOKS:

17 Q. And I believe you testified you don't have any  
18 simple single opinion as to whether it would  
19 nevertheless be reasonable despite being harmful to that  
20 athlete?

21 ATTORNEY BORELLI: Objection to form.

22 THE WITNESS: I don't think that's what I  
23 said.

24 BY ATTORNEY BROOKS:

1 Q. All right.

2 Then I'll ask a different to avoid  
3 unclarity. Do you have an opinion as to whether,  
4 despite the harm that you have described, a policy that  
5 requires suppression of testosterone in order for such  
6 an individual to be eligible to compete in a women's  
7 division is reasonable?

8 ATTORNEY BORELLI: Objection to form.

9 THE WITNESS: That's complicated. I  
10 apologize for not answering yes or no. I just ---  
11 sometimes you get lost in your question. So I don't  
12 think it's reasonable to ask them not to participate.  
13 They need time to practice and participate like all  
14 their peers that are practicing and competing at the  
15 time.

16 BY ATTORNEY BROOKS:

17 Q. So your testimony as you sit here today is that  
18 even as a biologically male athletes, natal male  
19 athletes who have not suppressed testosterone at all, it  
20 is not reasonable to exclude them from participation in  
21 the women's division?

22 ATTORNEY BORELLI: Objection, form.

23 THE WITNESS: To those who are assigned  
24 female at birth, you're again going to cause them harm



1 by not allowing them to participate and not be affirmed  
2 in their gender. That --- part of it is a big part of  
3 what it means to improve their overall health and what  
4 we do to care for these individuals. You're also  
5 marking them by saying that they are, you know,  
6 transgender and that is going to cause all kinds of  
7 kerfuffle and people are not nice to them. It can cause  
8 extreme harm to them in that way.

9 BY ATTORNEY BROOKS:

10 Q. In the beginning of your answer you referred to  
11 individuals identified as female at birth.

12 A. Assigned female at birth.

13 Q. And I think that your answer was speaking to  
14 individuals who are assigned male at birth.

15 A. Applies to both.

16 ATTORNEY BORELLI: Objection, form.

17 BY ATTORNEY BROOKS:

18 Q. Then let me re-ask my question because I asked  
19 about individuals assigned male at birth. As to those  
20 individuals, is it your opinion that a policy that  
21 requires them to suppress testosterone prior to becoming  
22 eligible for participation in the women's division or  
23 high school level girls division is unreasonable?

24 ATTORNEY BORELLI: Objection, form.

1                   THE WITNESS: For an assigned male at  
2 birth, suppressing testosterone, so we're clear because  
3 you used the word they in that particular question, I  
4 think it is unreasonable for them to be taken out of  
5 their sport. I think it causes harm. We see evidence  
6 that it causes harm with regard to depression, anxiety,  
7 suicidality. It also causes metabolic harm, changes in  
8 the performance.

9                                    ATTORNEY BROOKS:    Let me mark this  
10    Exhibit 11, an article by Duke Professor Doriane  
11    Lambelet Coleman, Michael Joyner and Donna Lopiano, the  
12    Duke Journal of Gender Law and Policy.

13 | ---

14 (Whereupon, Adkins Exhibit 11, Duke  
15 Journal of Gender Law and Policy  
16 Article, was marked for identification.)

17 | -----

18                                VIDEOGRAPHER:      Counsel, I didn't fully  
19 catch which document that was? Did you say it was tab  
20 19?

21                                ATTORNEY BROOKS:  It is tab 19, that's

22    correct.

23 VIDEOGRAPHER: Thank you.

24 BY ATTORNEY BROOKS:

1 Q. Dr. Adkins, let me ask whether you have before  
2 now been aware of this article by Duke Professor Coleman  
3 and others?

4 A. I have heard of an article, yes.

5 Q. Do you know Professor Coleman?

6 A. I met Professor Coleman once.

7 Q. And have you ever seen this article before  
8 today?

9 A. I haven't looked at it.

10 Q. Probably my questioning about it will be very  
11 short. Let me ask you to turn to page 88. At the very  
12 bottom of page 88 is a sentence that runs over into 89  
13 that reads as follows. If elite sport were coed or  
14 competition were open, even the best female would be  
15 rendered invisible by the sea of men and boys who would  
16 surpass her, closed quote. Do you see that language?

17 A. I do.

18 Q. Do you have the expertise to evaluate whether  
19 that is true or false?

20 ATTORNEY BORELLI: Object to form.

21 THE WITNESS: The --- well, again, you  
22 are picking one sentence out of a whole article. And I  
23 know that Dr. Coleman has actually called into question  
24 some of the information from this report in particular.

1 And without knowing which things I can't really rely on  
2 this document to say whether it's true. And that's not  
3 --- that's her expertise.

4 BY ATTORNEY BROOKS:

5 Q. Well, that's my question. Do you believe that  
6 it is within your expertise to evaluate that sort of  
7 question about sporting performance?

8 ATTORNEY BORELLI: Object to the form.

9 THE WITNESSS: Again, you are picking one  
10 sentence. I have some professional experience with  
11 assisting people in improving their physiology with  
12 regard to, you know, muscle mass, fat mass. Sport would  
13 be outside what I would have to say --- this  
14 specifically.

15 BY ATTORNEY BROOKS:

16 Q. I'm not sure that was a compete sentence, let me  
17 ask a follow-up question. Is it the case that it is ---  
18 you consider it outside your professional expertise to  
19 evaluate the truth or falsity of this supposed assertion  
20 that, quote, if elite sport were coed or competition  
21 were open, even the best female would be rendered  
22 invisible by the sea of men and boys who would surpass  
23 her, closed quote?

24 ATTORNEY BORELLI: Object to form.

1                   THE WITNESS: That's not been my  
2 experience. That's not what we're seeing in sports. I  
3 can't say anything else about whether or not I could  
4 assess it. That would be my only way to assess it based  
5 on my experience.

6 BY ATTORNEY BROOKS:

7           Q.       What is your professional training or research  
8 that qualifies you to evaluate the impact that would be  
9 experienced in athletics on biological women if sport  
10 were coed or competition were open?

11                   ATTORNEY BORELLI: Objection to form.

12                   THE WITNESS: Yeah. I don't study  
13 sports.

14 BY ATTORNEY BROOKS:

15           Q.       You are an endocrinologist by training.

16                   Is that correct?

17           A.       I am.

18           Q.       Do you have an expert opinion as to what lasting  
19 or legacy --- strength and athletic capability if any  
20 way natal males continue to enjoy over natal females  
21 after suppressing testosterone?

22                   ATTORNEY BORELLI: Objection, form.

23                   THE WITNESS: So there's a lack of  
24 research in this area. I feel like we need more

1 information regarding this. I don't think that there's  
2 a way to answer that question with the data that we have  
3 at this time.

4 BY ATTORNEY BROOKS:

5 Q. Is it true in your practice that most of your  
6 biologically male patients present at your clinic let's  
7 say after age 13?

8 ATTORNEY BORELLI: Object to form.

9 THE WITNESS: Most of my patients who are  
10 assigned which at birth did you say?

11 BY ATTORNEY BROOKS:

12 Q. Male.

13 A. After age what again?

14 Q. I chose 13.

15 ATTORNEY BORELLI: Same objection.

16 THE WITNESS: I would agree with that.

17 BY ATTORNEY BROOKS:

18 Q. And implications of that are that those  
19 individuals have already experienced --- well, let me  
20 ask it differently. In your experience or based on your  
21 training, either one, on average what Tanner stage are  
22 boys at by the time they have finished their 13th year?

23 ATTORNEY BORELLI: Objection, form.

24 THE WITNESS: So assigned male at birth?

1 BY ATTORNEY BROOKS:

2 Q. Correct.

3 A. The average at 13 is Tanner 3.

4 Q. By the end of age 13 you would say Tanner 3?

5 A. It is really 13 and a half is what the published  
6 literature says.

7 Q. So presumably by the end of their 13th year,  
8 when they're older than 13 they're either in a later  
9 stage of Tanner stage 3 or moving into Tanner stage 4?

10 ATTORNEY BORELLI: Objection, form.

11 THE WITNESS: On average, but there is  
12 such a wide variety of --- they can present with puberty  
13 from 9 to 14. And they all move differently at  
14 different rates and different times, so there's a lot of  
15 variety in the 13 and a half year olds I see in my  
16 clinic who are assigned male at birth.

17 BY ATTORNEY BROOKS:

18 Q. And my question was about averages. So on  
19 average, by the end of the 13th year the patients you  
20 see would be towards the end of Tanner stage 3 or  
21 entering into Tanner stage 4?

22 ATTORNEY BORELLI: Objection, form.

23 THE WITNESS: On average, yeah.

24 BY ATTORNEY BROOKS:

1 Q. And by that time those biologically male who  
2 have under gone effects on skeleton, on height, on  
3 musculature, typical of or sometimes referred to as  
4 verilization.

5 Correct?

6 ATTORNEY BORELLI: Objection, form.

7 THE WITNESS: So at 13 and a half the  
8 average assigned male at birth is dead center their  
9 growth spurt, so they've only gone through about half of  
10 it. They still have about half of it left.

11 BY ATTORNEY BROOKS:

12 Q. Okay.

13 And do you have any knowledge as to whether  
14 they have also undergone changes in heart and lung size  
15 and bone strength that are typical of male puberty?

16 ATTORNEY BORELLI: Objection, form.

17 THE WITNESS: So I can't comment about  
18 the heart and the lung. The lung size is typically  
19 proportioned to the body size. So in that way, halfway.  
20 Bone strength, however, there's more information about.  
21 And you know, people don't get their peak bone mass  
22 until they're 30, so they have a long way to go starting  
23 from 13 and a half before they reach that.

24 BY ATTORNEY BROOKS:



1 Q. Have, on average, males experienced significant  
2 bone densification by age --- by the end of their 13th  
3 year?

4 ATTORNEY BORELLI: Objection, form.

5 THE WITNESS: Depends on your definition  
6 of significant. Clinically significant, medically  
7 significant? Is it, you know, significant with regard  
8 to the biological assay. Is it you're talking about  
9 which would --- Dexus scans?

10 BY ATTORNEY BROOKS:

11 Q. I will take clinically significant.

12 ATTORNEY BORELLI: Objection to form.

13 THE WITNESS: Can you repeat your  
14 question with that?

15 BY ATTORNEY BROOKS:

16 Q. Yes. On average, have biological males  
17 experienced clinically significant bone densification by  
18 the end of their 13th year?

19 ATTORNEY BORELLI: Objection, form.

20 THE WITNESS: Over their life span they  
21 do continue to increase their bone density. The peak of  
22 bone density is much later, so every person is different  
23 as to where they are in that density scale. At the  
24 middle of puberty, I mean, I would be guessing if I said

1 anything specific.

2 BY ATTORNEY BROOKS:

3 Q. Well, as I tell witnesses I am defending I don't  
4 know is always a great conversation stopper. Is it your  
5 testimony that you don't actually know how much bone  
6 densification has occurred by the end of the 13th year  
7 in those in biological males?

8 ATTORNEY BORELLI: Objection, form.

9 THE WITNESS: I haven't looked at it ---  
10 I haven't looked at it recently. There are --- that's  
11 an --- interpretations that we use and it comes with our  
12 reports and I would have to look at that to rely on it.

13 BY ATTORNEY BROOKS:

14 Q. Have you heard the name Joanna Harper?

15 A. No.

16 Q. Let me see tab 24.

17 ATTORNEY BROOKS: Marking 13, what was  
18 previously designated tab 24, article published December  
19 2020 by Emma Hilton and Tommy Lundberg, titled  
20 Transgender Women in the Female Category of Sport:  
21 Perspectives on Testosterone Suppression and Performance  
22 Advantage.

23 ---

24 (Whereupon, Adkins Exhibit 13, 2020

1                   Hilton and Lundberg Article, was marked  
2                   for identification.)

3   ---

4   BY ATTORNEY BROOKS:

5       Q.       And Dr. Adkins, let me ask again whether you  
6       know the name Emma Hilton or Tommy Lundberg.

7       A.       No.

8       Q.       Can I take it then you have not seen this  
9       article before?

10      A.       I wouldn't say that one equals the other. I'm  
11      terrible with names, to be quite honest.

12      Q.       Let me ask --- therefore, I retract that  
13      question. Do you recall seeing this article before  
14      today?

15      A.       No.

16      Q.       Okay.

17               Then again, we will be short. You see the  
18      title. I understand you have not seen it. Let me ask  
19      you to turn to page 201. About an inch down in the  
20      first column, summarizing other research the authors of  
21      this paper write an extensive review of fitness from  
22      over 85,000 Australian children age 9 to 17 years old  
23      show that, compared with 9 year old females, 9 year old  
24      males were faster over short sprints, 9.8 percent, and

1 one mile, 16.6 percent. Could jump 9.5 percent further  
2 from a standing start, a test of explosive power.  
3 Quote, could complete 33 more push ups in 30 seconds and  
4 had 13.8 percent stronger grip, closed quote. Do you  
5 see that language?

6 A. Yeah.

7 Q. And my question for you is you have yourself any  
8 knowledge as to whether the facts recited there are  
9 scientifically accurate or inaccurate?

10 ATTORNEY BORELLI: Objection, form.

11 THE WITNESS: So whenever I'm reviewing  
12 an article, and again, I have not seen the full article,  
13 it's reporting on population from Australia, which I  
14 usually use the population that I'm talking about when I  
15 am using that information to help guide my practice. So  
16 I'm not completely sure that would be a thing that would  
17 come into my mind when looking at this. Is this the  
18 same population in Australia you we're seeing here?  
19 That's one of my first questions about it.

20 BY ATTORNEY BROOKS:

21 Q. And I understand that everybody in Australia is  
22 upside down, but my question simply was do you have any  
23 knowledge as to whether, as a matter of science, these  
24 assertions are true or false?

1                    ATTORNEY BORELLI: Objection, form.

2                    THE WITNESS: They have published it in a  
3 peer reviewed journal I think. I would have to look if  
4 this is a peer reviewed journal because some are not.  
5 If those things are true, the assumption we make in  
6 medicine is that they are true.

7                    BY ATTORNEY BROOKS:

8            Q.        You are a very trusting person to peer reviewed  
9 journals.

10           A.        They get redacted all the time. So again, my  
11 previous thing is you got to look at all of the pieces,  
12 et cetera.

13           Q.        In general --- in general, do you consider that  
14 your expertise extends to the question of how much  
15 athletic advantage biological males enjoy over  
16 biological females prior to puberty, if any?

17                    ATTORNEY BORELLI: Objection, form.

18                    THE WITNESS: I know limited amount of  
19 that information. We all learn a little bit, but I  
20 wouldn't say that I could say, you know, I know  
21 everything that exists.

22                    BY ATTORNEY BROOKS:

23            Q.        What is your source of information in that area?

24                    ATTORNEY BORELLI: Objection, form.

1                   THE WITNESS: Generally education in  
2 medical school and then looking at hormonal effects in  
3 muscle and bone and those things. But not in particular  
4 these specific tests.

5 BY ATTORNEY BROOKS:

6           Q. Do you have any opinion as to whether prior to  
7 puberty natal males have strength, speed or other  
8 athletic advantages over natal females on average?

9                   ATTORNEY BORELLI: Objection, form.

10                  THE WITNESS: Gosh, there's such a wide  
11 variety of humans. And I know you are asking on  
12 average. I don't think I feel comfortable answering the  
13 question.

14 BY ATTORNEY BROOKS:

15           Q. All right.

16                   You have offered the opinion --- we can go back  
17 to paragraph 28, I keep referring to the same, that  
18 refusing to permit a transgender individual to  
19 participate in a sport category corresponding to their  
20 gender identity can be or is extremely harmful. From  
21 your medical point of view, what do you consider to be  
22 the implications of that opinion when it comes to  
23 individuals who claim both a male and a female gender  
24 identity?

1                   ATTORNEY BORELLI: Objection, form.

2                   BY ATTORNEY BROOKS:

3           Q.       Must they be permitted to play in either  
4 category according to their choice.

5                   ATTORNEY BORELLI: Objection, form.

6                   THE WITNESS: That is a good question. I  
7 would have to talk to the individual person to really  
8 know what harm they might think --- feel that they are  
9 having if they were kept from one versus the other. I  
10 think that would be a very individualized question. I  
11 can't answer it with my experience.

12                  BY ATTORNEY BROOKS:

13           Q.       All right.

14                   Would you have the same answer with regard to  
15 an individual who experiences neither gender identity,  
16 neither male or female?

17                   ATTORNEY BORELLI: Objection, form.

18                   THE WITNESS: So people who identify as a  
19 agender, you know, there is such a wide variety there of  
20 their life experience, their pubertal experience, their  
21 current hormones and what things they might be taking or  
22 not taking, where their levels are. I think it --- and  
23 you know, again, I think --- you would have to look at  
24 the individual person.

1 BY ATTORNEY BROOKS:

2 Q. Is it your opinion, Dr. Adkins, that the only  
3 reasonable policy for schools, colleges or athletic  
4 leagues would be to consider eligibility for transgender  
5 individuals on a case by case basis, taking into account  
6 all of the types of complexities you just described?

7 ATTORNEY BORELLI: Objection, form.

8 THE WITNESS: I think that that is  
9 completely possible for them to do given the small  
10 population that we're talking about. And I think it is  
11 reasonable for them to take the time to do that with  
12 each individual human.

13 BY ATTORNEY BROOKS:

14 Q. Do you think that such a policy is the only  
15 reasonable policy?

16 ATTORNEY BORELLI: Objection, form.

17 THE WITNESS: Yeah, I'm going to venture  
18 that, yes.

19 BY ATTORNEY BROOKS:

20 Q. In your view --- as you've testified earlier a  
21 bit about the category of gender fluid individuals. You  
22 mentioned the term. Are you familiar with that  
23 category, concept of gender fluid individuals?

24 ATTORNEY BORELLI: Objection, form.



1                   THE WITNESS: I'm aware of the concept.

2                   BY ATTORNEY BROOKS:

3           Q.       Can you explain for the court what the concept  
4 of --- what a gender fluid individual is or what that  
5 person experiences?

6                   ATTORNEY BORELLI: Objection to form.

7                   THE WITNESS: So my experience is that  
8 every gender fluid person is different, and I have to  
9 actually dig deep when I'm talking to someone who is  
10 gender fluid as to what that means. It could mean a  
11 wide variety of different experiences.

12                  BY ATTORNEY BROOKS:

13           Q.       You're not able to describe at all what it mean  
14 to be gender fluid?

15                   ATTORNEY BORELLI: Objection, form.

16                   THE WITNESS: I can give you an example.  
17 I can give you more than one example.

18                  BY ATTORNEY BROOKS:

19           Q.       I'll take an example.

20           A.       Okay.

21                   For a patient I'm bringing to mind, for that  
22 individual they generally might be expressing their  
23 gender identity variably on a particular day. Their  
24 understanding of their identity is that it shifts a

1 little bit. They sometimes are frilly, like me, very  
2 feminine-ish, and on days --- and feel that --- and  
3 other days they might wear a suit and tie. And that  
4 gender expression may align with their gender identity I  
5 guess, to express themselves a different way. It's just  
6 a matter that, you know, some days I feel like a girl  
7 and some days I don't. And I actually also sometimes  
8 have that feeling of, you know, a more girly one day  
9 than the other. I don't know. I'm not implying that  
10 I'm gender fluid, but that particular person is an  
11 example of what might happen for someone who's gender  
12 fluid.

13 Q. Let me ask you to find. I told you we'd dig for  
14 it again, the Endocrine Society 2017 Guidelines, which  
15 are Exhibit 4.

16 A. I'm not saying my experience is the one and  
17 only, one all be all.

18 Q. And I'll call your attention to page five,  
19 column two?

20 A. I'm sorry, what is that again?

21 Q. Page five, column two. Language looks like  
22 this. That's on page five. That's fine.

23 ATTORNEY TRYON: This is Dave Tryon. I  
24 think both of you are starting to trail off at times and

1 speak less loudly and it's getting a little bit harder  
2 to hear you. If you can both remember to keep your  
3 voices up, it would be helpful to me.

4 ATTORNEY BROOKS: We will do our best.  
5 Wait until 6:30.

6 BY ATTORNEY BROOKS:

7 Q. Page 3873, column two. And towards the bottom  
8 is a discussion of the continuum and individuals who  
9 experience both or neither and then a reference that we  
10 looked at before about reports of individuals  
11 experiencing a continuous and rapid involuntary  
12 alternation between a male and female gender identity.  
13 Do you see that? It's about eight lines from the  
14 bottom.

15 A. On the right?

16 Q. Yes.

17 A. Yeah.

18 Q. And I'm going to focus you on the rapid  
19 involuntary alternation between male and female  
20 identity. And is it your view --- is it your opinion  
21 that unless school or league policy allows such gender  
22 fluid individuals to play in the league according to  
23 their present gender identity, whatever that might be,  
24 that it will do extreme harm to those individuals?

1                    ATTORNEY BORELLI:    Objection, form.

2                    THE WITNESS:    So I think that unless you  
3    are working with that individual person to do what works  
4    for them based on their gender identity, you are likely  
5    to do harm.

6    BY ATTORNEY BROOKS:

7            Q.        And am I correct that it is your opinion that  
8    avoiding harm to students who experience a transgender  
9    identity, perhaps a gender fluid identity, is a higher  
10   priority than ensuring fairness in competition for those  
11   born female?

12                   ATTORNEY BORELLI:    Objection to form.

13                   THE WITNESS:    So doing a harm to  
14   individuals that are transgender can lead directly to  
15   their death.    So we're talking about a life and death  
16   experience for these individuals.    What you are  
17   referring to with regard to sports participation in my  
18   vision of all of the sports athletics is a rarity of  
19   someone dying, and it is not because of the harm policy  
20   --- of transgender person.

21    BY ATTORNEY BROOKS:

22            Q.        What's the answer to my question?

23                   COURT REPORTER:    Excuse me.

24                   ATTORNEY BORELLI:    Objection.

1                    COURT REPORTER: I just want to interrupt  
2 because the witness cut out during her answer.

3 BY ATTORNEY BROOKS:

4            Q. Well, I'm going to re-ask the question. And  
5 we'll both try to speak up and perhaps to some extent  
6 the transcript will have to be, you know, cleaned up  
7 from the recording. We'll do the best we can. Is it  
8 your opinion that avoiding harm to transgender  
9 individuals, potentially including gender fluid  
10 individuals, is a value that is more important than  
11 protecting the fairness and safety for girls and women  
12 for those born female in sport?

13                    ATTORNEY BORELLI: Objection, form.

14                    THE WITNESS: So when we're talking about  
15 life and death, that is the ultimate outcome. And I  
16 still say that if you're talking about a policy that  
17 could cause the death of a human being, that, in my  
18 judgment, does rank higher than fairness at that time.

19 BY ATTORNEY BROOKS:

20            Q. And you talked earlier about your assertion that  
21 you had patients who have experienced harm as a result  
22 of not being permitted to play according to their gender  
23 identity. Do you recall that testimony?

24                    ATTORNEY BORELLI: Objection, form.

1                   THE WITNESS:   I do.

2   BY ATTORNEY BROOKS:

3           Q.       And do you have specific examples of such  
4 patients who experienced increased suicidal ideation  
5 specifically as a result of not being permitted to play  
6 in athletics according to their gender identity?

7                   ATTORNEY BORELLI:   Objection, form.

8                   THE WITNESS:   I do.

9   BY ATTORNEY BROOKS:

10          Q.       Tell us about that.

11                   ATTORNEY BORELLI:   Objection, form.

12                   THE WITNESS:   Yeah.   So one of my  
13 patients, for example, had played football.   This  
14 patient was assigned female at birth, identifying as  
15 male in middle school.   Really wanted to play in high  
16 school and was eventually not allowed to do so, and  
17 their depression deepened.   They had not had any  
18 suicidal ideation before.   They had been well affirmed.  
19 They were living in their gender identity in every other  
20 aspect of their life.

21                   And they ended up having to go on  
22 medication to make sure that --- to treat that  
23 depression in addition to all of the support in the  
24 family and teachers were giving with their gender

1 identity.

2 BY ATTORNEY BROOKS:

3 Q. And do you have any knowledge as to whether that  
4 individual would have faced serious safety injury risks  
5 had that individual, natal female, been permitted to  
6 play football at high school level as your patient's  
7 male peers matured into full male stature?

8 ATTORNEY BORELLI: Objection to form.

9 THE WITNESS: This particular patient was  
10 within the normal range for a male of that age as far as  
11 height, weight and BMI, so there wasn't a great  
12 disparity with regard to that. That can come up at  
13 times with regards to sports participation in  
14 consideration with injury. So this particular patient,  
15 I would not have had any concern there. Lots of  
16 assigned females at birth who are not transgender also  
17 play football in high school.

18 BY ATTORNEY BROOKS:

19 Q. Tab 25. Dr. Adkins, do you recall permitting  
20 the reporting of and being part of a WNYC podcast back  
21 in 2016?

22 A. Yes.

23 Q. Let me mark as Exhibit 14 a two-page kind of  
24 introductory page off the WNYC website describing this

1 podcast. The document itself, the posting is dated  
2 August 2, 2016. Give me one moment here.

3 ---

4 (Whereupon, Adkins Exhibit 14, 2016  
5 Podcast Summary Webpage, was marked for  
6 identification.)

7 ---

8 ATTORNEY BROOKS: And let me also mark as  
9 Exhibit 15 the transcript of that podcast downloaded off  
10 of the WNYC website.

11 ---

12 (Whereupon, Adkins Exhibit 15, 2016  
13 Podcast Transcript, was marked for  
14 identification.)

15 ---

16 BY ATTORNEY BROOKS:

17 Q. And that --- the title apparently of the podcast  
18 is, quote, I'd Rather Have a Living Son than a Dead  
19 Daughter. Do you see that?

20 A. I do.

21 Q. And you allowed a reporter from WNYC to come  
22 into your office and record various conversations.

23 Am I correct?

24 ATTORNEY BORELLI: Objection, form.



1                   THE WITNESS: With the permission of ---  
2 the --- everyone involved.

3 BY ATTORNEY BROOKS:

4           Q. To participate and they waived the privacy with  
5 regard to anything that wasn't included in the podcast.

6                   Am I correct?

7                   ATTORNEY BORELLI: Objection to form.

8                   THE WITNESS: That would be standard.

9 BY ATTORNEY BROOKS:

10          Q. At least as far as yourself, do you recall doing  
11 that?

12                   ATTORNEY BORELLI: Objection to form.

13                   THE WITNESS: I don't recall. I suspect  
14 I would have.

15 BY ATTORNEY BROOKS:

16          Q. And did you yourself review the podcast before  
17 it was released for any privacy or accuracy concerns?

18                   ATTORNEY BORELLI: Objection, form.

19                   THE WITNESS: I don't remember. That's  
20 been so long ago.

21 BY ATTORNEY BROOKS:

22          Q. It has been a while. This was 2016. And you  
23 had been practicing in this area about how long in 2016?

24          A. In North Carolina?

1 Q. I'm sorry. In this field of treatment of gender  
2 --- of individuals suffering gender dysphoria?

3 ATTORNEY BORELLI: Objection, form.

4 THE WITNESS: I started caring for  
5 patients who are transgender in --- I think around 2013.

6 BY ATTORNEY BROOKS:

7 Q. Okay.

8 So between two and three years before the time  
9 this was recorded.

10 Okay.

11 Let me ask you to look at Exhibit 15, which is  
12 to say the transcript. And first page, it indicates and  
13 I'll just --- it deals with two clients with names, at  
14 least for purposes of the podcast, of Drew Adams and  
15 Mark. Do you recall that?

16 ATTORNEY BORELLI: Objection, form.

17 THE WITNESS: I would have to verify.  
18 Probably accurate, but ---.

19 BY ATTORNEY BROOKS:

20 Q. Martin shows up on page 13. A couple inches  
21 down we skip to the last patient at the end of a long  
22 day and then it says recalling this patient Martin.

23 A. I see that.

24 Q. Let's go back and just look at issues relating

1 to Drew Adams. Drew is, if I understand correctly,  
2 natal female, identifying at the time of this recording  
3 as ---?

4 A. Drew was assigned female at birth and identified  
5 as male at this time.

6 Q. And so far as you understand, based on your  
7 medical evaluation, Drew is somebody who was  
8 chromosomally female.

9 Correct?

10 ATTORNEY BORELLI: Objection to form.

11 THE WITNESS: I don't get to verify their  
12 chromosomes. We don't do that.

13 BY ATTORNEY BROOKS:

14 Q. At the time this was recorded, you did have an  
15 understanding, did you not, that Drew had female  
16 reproductive biology?

17 ATTORNEY BORELLI: Objection, form.

18 THE WITNESS: On my exam at that time  
19 Drew had external genitalia that appeared female and  
20 secondary sex characteristics typical of someone  
21 assigned female at birth.

22 BY ATTORNEY BROOKS:

23 Q. Well, in fact, somebody biologically female.

24 Correct?

1                    ATTORNEY BORELLI:    Objection.

2                    THE WITNESS:    Assigned female at birth.

3                    BY ATTORNEY BROOKS:

4                    Q.        Well, let me ask you this.    You prescribed  
5 hormones for Drew.

6                    Am I correct?

7                    A.        Yes.

8                    Q.        And you didn't do that without a high level of  
9 confidence in your mind as to the biology of Drew's  
10 body.

11                    Am I correct?

12                    ATTORNEY BORELLI:    Objection to form.

13                    BY ATTORNEY BROOKS:

14                    Q.        You weren't just based on what somebody happened  
15 to be assigned at birth.    You believed that Drew was  
16 biologically female, did you not?

17                    ATTORNEY BORELLI:    Objection, form.

18                    THE WITNESS:    So at the beginning, prior  
19 to treating patients, we do look at where their baseline  
20 hormones are.    So I did have that information as well as  
21 an external exam.    I didn't have chromosomes or an  
22 ultrasound.

23                    BY ATTORNEY BROOKS:

24                    Q.        My question is at the time you prescribed

1 hormones for Drew you believed that Drew was  
2 biologically female firmly, did you not?

3 ATTORNEY BORELLI: Objection, form.

4 THE WITNESS: I had no reason at that  
5 time with the data in front of my to identify Drew as  
6 anything other than assigned female at birth.

7 BY ATTORNEY BROOKS:

8 Q. And you just didn't care what Drew's biology was  
9 as you chose hormones to prescribe?

10 ATTORNEY BORELLI: Objection, form.

11 THE WITNESS: I investigated what is  
12 necessary to move ahead with that prescription and make  
13 it safe for the patient.

14 BY ATTORNEY BROOKS:

15 Q. What was necessary was to determine that  
16 biologically Drew was female.

17 Am I correct?

18 ATTORNEY BORELLI: Objection, form.

19 BY ATTORNEY BROOKS:

20 Q. You are going to tell the court that you didn't  
21 try to determine whether Drew was biologically male or  
22 female?

23 ATTORNEY BORELLI: Objection, form.

24 THE WITNESS: I obtained baseline blood

1 work like I do with every patient, which is recommended  
2 by the Endocrine Society that you get baseline hormone  
3 levels. I did a physical exam. Not every patient gets  
4 to have an ultrasound, a karyotype or a full exon  
5 analysis. It's not the way you can practice medicine.

6 BY ATTORNEY BROOKS:

7 Q. Turn with me to page three of the transcript.  
8 Two, two and a half inches down, MH, who I believe is  
9 the reporter, not somebody working for you but the  
10 reporter, says, quote, this is Drew's second time here,  
11 closed quote. Do you see that, just two inches down?

12 A. Yeah.

13 Q. It's been quite a few years. Do you believe  
14 that that was accurate that what the events that were  
15 recorded here were on Drew's second visit to your  
16 clinic?

17 ATTORNEY BORELLI: Objection, form.

18 THE WITNESS: It has been so long. To  
19 verify it is true I would have to look back at my clinic  
20 notes as well as if I even still had it recorded when  
21 they were in clinic or not.

22 BY ATTORNEY BROOKS:

23 Q. And do you know, as you sit here today, whether  
24 prior to this perhaps second meeting with Drew any

1 psychologist or psychiatrist associated with your new  
2 clinic had personally evaluated Drew to confirm the  
3 diagnosis of gender dysphoria?

4 ATTORNEY BORELLI: Objection, form.

5 THE WITNESS: Before we start treatment  
6 we have our mental health team do an assessment of the  
7 patient with regard to finding out their --- any  
8 psychological challenges that they may be having and  
9 confirm if they have gender dysphoria and confirm the  
10 criteria from the DSM --- God, my brain is just tired.  
11 From the DSM criteria. And in addition to that, we have  
12 a person who is a local mental health provider also  
13 perform any evaluation and develop a relationship with  
14 the patient prior to starting the treatment.

15 BY ATTORNEY BROOKS:

16 Q. Well, let me break that out. Do you require  
17 that a psychologist or psychiatrist associated with Duke  
18 confirm a diagnosis of gender dysphoria before you  
19 proceed with hormonal interventions?

20 ATTORNEY BORELLI: Objection, form.

21 THE WITNESS: I have a team of mental  
22 health providers who work with me and do that  
23 assessment. That is part of their standard job. And  
24 every patient is evaluated by that team. Sometimes it

1 is a psychiatrist, psychologist. Sometimes it is a  
2 different kind of mental health provider.

3 BY ATTORNEY BROOKS:

4 Q. Well, if it is not a psychologist or  
5 psychiatrist, on what type of mental health --- what  
6 qualifications of mental health providers do you rely to  
7 make such a diagnosis before prescribing hormonal  
8 interventions?

9 ATTORNEY BORELLI: Objection, form.

10 THE WITNESS: You know, there are  
11 Licensed Clinical Social Workers that we work with that  
12 are used by Duke in a number of capacities with regard  
13 to mental healthcare.

14 BY ATTORNEY BROOKS:

15 Q. Is it your testimony --- I want to be careful on  
16 this. Is it your testimony that you are willing to rely  
17 on a diagnosis by a social worker with no medical,  
18 psychological degree before prescribing a hormonal  
19 intervention?

20 ATTORNEY BORELLI: Objection, form.

21 THE WITNESS: So the mental health  
22 providers that I use have master's degree education in  
23 care for patients in this area and have ongoing  
24 continuing medical education with regard to their



1 ability to asses the mental health of a patient in front  
2 of them.

3 BY ATTORNEY BROOKS:

4 Q. That would be a --- a Master's in social work.  
5 Correct?

6 A. Often it's a Master's in social work. Also have  
7 people who have Master's in public health in addition I  
8 should say.

9 Q. And so if such any evaluations was done by a  
10 mental health professional associated with Duke, that  
11 would have been at Drew's first visit, not at the visit  
12 that was the subject of this podcast recording?

13 ATTORNEY BORELLI: Objection, form.

14 THE WITNESS: At that time it could have  
15 been done physically at the first visit. Sometimes we  
16 have had them come on a different day than their visit  
17 with me. So it is possible it could have been a  
18 different day. I just don't remember.

19 BY ATTORNEY BROOKS:

20 Q. Okay.

21 Do you ever rely on the diagnosis of an  
22 individual's mental health worker not associated with  
23 Duke as an adequate basis to prescribe hormonal  
24 interventions?

1 ATTORNEY BORELLI: Objection, form.

2 THE WITNESS: Our clinic policy is to  
3 have someone outside of Duke as well as someone inside  
4 of Duke.

5 BY ATTORNEY BROOKS:

6 Q. So you may recall --- do you recall that Drew  
7 and his mother had driven up from Florida for this  
8 meetings?

9 ATTORNEY BORELLI: Objection, form.

10 THE WITNESS: I do remember that.

11 BY ATTORNEY BROOKS:

12 Q. And do you sometimes consider diagnosis given by  
13 mental --- for purposes of proceeding with hormonal  
14 interventions?

15 ATTORNEY BORELLI: Objection, form.

16 THE WITNESS: If they are licensed to  
17 practice in that area or certified in their state, that  
18 is what we rely on.

19 BY ATTORNEY BROOKS:

20 Q. At the top of page two --- and again, this is  
21 the voice of the reporter, so I want to check it with  
22 you. It says, the end of the first full paragraph, that  
23 Drew and his mom are driving eight hours from  
24 Jacksonville, Florida, to get here because North

1 Carolina is also home to one of the only clinics in the  
2 south that treats transgender kids. Do you see that?

3 A. I do.

4 Q. And in your understanding was that true in 2016,  
5 that you here had one of the only clinics in the south  
6 that treated transgender kids?

7 ATTORNEY BORELLI: Objection, form.

8 THE WITNESS: We were one of a few.

9 BY ATTORNEY BROOKS:

10 Q. And they had driven all the way to North  
11 Carolina from Florida precisely because whatever mental  
12 health providers they were seeing in Florida didn't have  
13 expertise in this area.

14 Is that correct?

15 ATTORNEY BORELLI: Objection, form.

16 THE WITNESS: They didn't drive here to  
17 see a mental health provider. They drove here to see me  
18 as an endocrinologist.

19 BY ATTORNEY BROOKS:

20 Q. I apologize. Whatever professionals were  
21 advising them in Florida didn't have expertise in this  
22 area?

23 ATTORNEY BORELLI: Objection, form.

24 THE WITNESS: With regard to hormonal

1 management.

2 BY ATTORNEY BROOKS:

3 Q. What steps, if any, did you take to give  
4 yourself comfort that any comorbidities that might be  
5 --- might confound the diagnosis of transgenderism had  
6 been appropriately addressed before you prescribed  
7 hormones for Drew?

8 ATTORNEY BORELLI: Objection to form.

9 THE WITNESS: I mean, I would have to  
10 look back at my notes specifically to see exactly what  
11 we had in the record. Our policy again is to have  
12 someone who has had a relationship with the patient  
13 outside of Duke Clinic that states that they have well  
14 managed issues with regard to their mental health and  
15 are prepared and safe to move forward with gender  
16 affirming hormones.

17 BY ATTORNEY BROOKS:

18 Q. As a matter of policy in your clinic do you  
19 insist on a diagnosis that will tell you whether or not  
20 this patient suffers from autism of any sort?

21 ATTORNEY BORELLI: Objection, form.

22 THE WITNESS: We do require that they  
23 have a screening that is performed within our clinic for  
24 any potential signs or symptoms of autism.

1 BY ATTORNEY BROOKS:

2 Q. And if you identify that a patient does have  
3 some signs or symptoms of autism what significance does  
4 that have as to how quickly or whether you are willing  
5 to proceed with hormonal interventions?

6 ATTORNEY BORELLI: Objection to the form.

7 THE WITNESS: So again, every patient is  
8 different. Autism is a spectrum, as it's described  
9 autism spectrum disorder, and so you have to figure out  
10 each patient's understanding of their gender identity,  
11 what's going on in their life and if they're ready.

12 BY ATTORNEY BROOKS:

13 Q. Do you have any professional opinion as to  
14 whether autism itself can cause a patient to feel  
15 uncomfortable with their identity?

16 ATTORNEY BORELLI: Objection to form.

17 THE WITNESS: Their whole identity?

18 BY ATTORNEY BROOKS:

19 Q. Yes.

20 A. I ---.

21 ATTORNEY BORELLI: Objection ---.

22 THE WITNESS: Yeah, I don't know if I  
23 have seen any reports about their whole identity being  
24 called into question just because they have autism.

1 BY ATTORNEY BROOKS:

2 Q. Do you have any professional opinion as to  
3 whether autism itself can cause individuals to feel  
4 alienated from or disassociated with their gender  
5 identity ---

6 ATTORNEY BORELLI: Objection, form.

7 BY ATTORNEY BROOKS:

8 Q. --- or I should say the gender identity  
9 associated with their natal sex?

10 ATTORNEY BORELLI: Objection to form.

11 THE WITNESS: With the information that I  
12 have worked with on our autism team at Duke is that, you  
13 know, it can take a little longer for people with autism  
14 to truly understand their gender identity. So we do  
15 take care there. That's why we screen.

16 BY ATTORNEY BROOKS:

17 Q. I would like to play a clip from this podcast  
18 that includes your voice, the reporter's voice, Drew's  
19 voice. I think it will come through loud and clear.  
20 I'm optimistic --- for those of you ---.

21 ATTORNEY BORELLI: While you're settling  
22 this, will the words from the recording, do they appear  
23 in the transcription.

24 ATTORNEY BROOKS: They do. I was about

1 to say that for everybody's benefit.

2 ATTORNEY BORELLI: Thank you, Counsel.

3 ATTORNEY BROOKS: Now, I'm thinking.

4 That has to be live. All right. So that's unmuted.

5 VIDEOGRAPHER: You said one?

6 ATTORNEY BROOKS: What's that?

7 VIDEOGRAPHER: You said one?

8 ATTORNEY BROOKS: But I need to say on  
9 the record and tell people --- can the court reporter  
10 here me.

11 COURT REPORTER: Yes.

12 ATTORNEY BROOKS: The clip that I'm about  
13 to play appears on page four of the transcript that is  
14 marked Exhibit 15 and it makes up kind of the center  
15 two-thirds of the transcript. All the words that you  
16 will hear or perhaps won't hear very well appear on the  
17 transcript. We're going to listen to clip one here.

18 ---

19 (WHEREUPON, PODCAST AUDIO WAS PLAYED.)

20 ---

21 BY ATTORNEY BROOKS:

22 Q. The narrator says that Drew's only question was,  
23 quote, when can I start testosterone, and you responded  
24 today, sound good, yeah, all right. Is that consistent

1 with your recollection of what happened that day?

2 ATTORNEY BORELLI: Objection, form.

3 THE WITNESS: Yes.

4 BY ATTORNEY BROOKS:

5 Q. Was that your voice?

6 A. That was my voice.

7 Q. Okay.

8 And did you know before you came into the room  
9 that Drew's goal was to walk out with a testosterone  
10 injection or a prescription for a testosterone  
11 injection?

12 ATTORNEY BORELLI: Objection to form.

13 THE WITNESS: You know, I don't remember.  
14 I don't remember what I knew before in walked in the  
15 door. Sometimes I do. Sometimes I don't.

16 BY ATTORNEY BROOKS:

17 Q. Now, I want to be fair. This is --- these are  
18 clips and they're carefully done, so I can't be sure  
19 whether there are things in between.

20 A. Correct.

21 Q. Do you have any recollection as to any  
22 discussion or any further evaluation that happened  
23 between, hey, how are you, and your voice, and answering  
24 the question when can I start, today?



1                   ATTORNEY BORELLI: Objection, form.

2                   THE WITNESS: So most typically, before I  
3 walk into a room I have reviewed the patient's medical  
4 record. I have reviewed their letter from their mental  
5 health provider. And I have reviewed any laboratory  
6 evaluation that I have received from them prior and  
7 generally review their records. So I would come into a  
8 visit with that sort of fresh in my mind.

9                   BY ATTORNEY BROOKS:

10           Q.       So it is consistent with your recollection that  
11 on Drew's second meeting with you, you walked into the  
12 room having made up your mind to give Drew testosterone?

13                   ATTORNEY BORELLI: Objection, form.

14                   THE WITNESS: Based on the words that are  
15 here, that would be --- I would have reviewed the  
16 information that I needed to know that that would be  
17 safe.

18                   BY ATTORNEY BROOKS:

19           Q.       And in between walking in the room and telling  
20 Drew today, yay, all right, did you make any further  
21 inquiry about whether Drew in the last --- since he last  
22 saw you had been suffering from any sort of depression?

23                   ATTORNEY BORELLI: Objection to form.

24                   THE WITNESS: So typically that is part

1 of our visit. It's not necessarily part that I would  
2 do. And we also have forms that they fill out that does  
3 an assessment of depression prior to me walking in the  
4 room.

5 BY ATTORNEY BROOKS:

6 Q. Did you ensure that an assessment had been done  
7 that evaluated the strengths and weaknesses of Drew's  
8 relationship with Drew's family?

9 ATTORNEY BORELLI: Objection, form.

10 THE WITNESS: The mental health  
11 evaluation does include walking through parent  
12 relationships, school relationships, teacher  
13 relationships and finding out where those are.

14 BY ATTORNEY BROOKS:

15 Q. Did you feel that you, yourself, needed to have  
16 any understanding, for instance, of Drew's relationship  
17 with Drew's father before you proceeded to prescribe  
18 cross sex hormones?

19 ATTORNEY BORELLI: Objection, form.

20 THE WITNESS: I would want to know where  
21 their relationships are.

22 BY ATTORNEY BROOKS:

23 Q. So Drew's mother attended. What steps did you  
24 take to find out what Drew's relationship with Drew's

1 father was?

2 ATTORNEY BORELLI: Objection, form.

3 THE WITNESS: I don't remember. I would  
4 have to look back.

5 BY ATTORNEY BROOKS:

6 Q. And does your clinic before prescribing hormonal  
7 interventions make sure that an overall psychotherapy  
8 treatment plan has been prepared to diagnose and address  
9 any other psychological or social difficulties suffered  
10 by the patient?

11 ATTORNEY BORELLI: Objection to form.

12 THE WITNESS: So you know, I follow the  
13 guidelines that say that we should have any of the  
14 mental health issues well managed and that's why we use  
15 --- have our patients have a mental health provider and  
16 that's why we have them tell us that in writing.

17 BY ATTORNEY BROOKS:

18 Q. So I'm going to play a second clip that picks up  
19 exactly where we left off on the transcript, that is at  
20 the very bottom of page five and continuing halfway ---  
21 I'm sorry, the very bottom of page four and continuing  
22 halfway down page five. If you would.

23

24

---

1 (WHEREUPON, PODCAST AUDIO WAS PLAYED.)

2 ---

3 ATTORNEY BROOKS: That was background  
4 noise. I thought it was coming through here. I  
5 apologize. Just start it again. My mistake.

6 ---

7 (WHEREUPON, PODCAST AUDIO WAS PLAYED.)

8 ---

9 BY ATTORNEY BROOKS:

10 Q. Dr. Adkins, do you believe that the basic  
11 narrative here accurately describes what happened, that  
12 you came in, you spoke with Drew, you went out, and  
13 while you were out one of your aides read risk  
14 disclosures for consent to Drew and Drew's mother?

15 ATTORNEY BORELLI: Objection, form.

16 THE WITNESS: That is part of it.

17 BY ATTORNEY BROOKS:

18 Q. And the narrator said at the beginning  
19 explaining this process that there were still, as of  
20 2016, a lot of unknowns about what these hormones will  
21 do long term. Was that an accurate statement at the  
22 time in your opinion?

23 ATTORNEY BORELLI: Objection, form.

24 THE WITNESS: We've learned a lot more.

1 We have got however many more years, what, five more  
2 years at least of information since then. You can't  
3 know what every single thing that every drug is going to  
4 do forever.

5 BY ATTORNEY BROOKS:

6 Q. One of the things that you included at that time  
7 in your cautions or disclosures was that taking these  
8 cross sex hormones might prevent a patient who had ---  
9 was a natal female from ever being able to get pregnant,  
10 even if Drew stopped taking testosterone in the future.

11 Correct?

12 ATTORNEY BORELLI: Objection, form. One  
13 other just piece of clarity for the record, I want to  
14 make sure that it is clear that the transcript and  
15 recording is not a complete recording of the entire  
16 visit.

17 ATTORNEY BROOKS: I have made that clear  
18 I think.

19 ATTORNEY BORELLI: Thank you, Counsel.

20 BY ATTORNEY BROOKS:

21 Q. My question is one of your disclosures in 2016  
22 was that the administration of testosterone to a natal  
23 female might mean that that individual would not ever be  
24 able to get pregnant even should the patient stop taking

1 testosterone at a future date.

2 Correct?

3 ATTORNEY BORELLI: Objection, form.

4 THE WITNESS: Correct.

5 BY ATTORNEY BROOKS:

6 Q. And that is still part of your disclosure today;  
7 is that correct?

8 A. That's part of it. We actually have more  
9 studies that show actually an equal fertility rate for  
10 our transgender males who have been on testosterone and  
11 come off and choose to get pregnant as their cisgender  
12 peers, their assigned females at birth who've never been  
13 through any testosterone treatment.

14 Q. Because of the present science you still make  
15 exactly the same caution in your warnings to patients  
16 before prescribing testosterone.

17 Correct?

18 ATTORNEY BORELLI: Objection to form.

19 THE WITNESS: I do.

20 BY ATTORNEY BROOKS:

21 Q. And so the sequence is that you said with regard  
22 to administering testosterone, which you cautioned or  
23 clinic cautioned could be potentially sterilizing, you  
24 as the doctor said to Drew, sound good, yeah, all right.

1 And then you left the room while somebody else read  
2 warnings and disclosures.

3 Is that right?

4 ATTORNEY BORELLI: Objection, form.

5 THE WITNESS: That doesn't --- is that  
6 what the sequence was in this report? It looks like  
7 that I also make sure that the patients have adequate  
8 time to answer questions. I usually give them this form  
9 ahead of the visit so they can review it and in case  
10 their reading is their better method versus verbal.  
11 That's why we do it in two different ways as far as  
12 their learning style. We make every effort to help make  
13 sure that our patients understand.

14 ATTORNEY BORELLI: We have been going a  
15 while. Can we take a break soon? I think we should.

16 ATTORNEY BROOKS: Fairly soon. We'll  
17 finish this line of questioning and this clip.

18 BY ATTORNEY BROOKS:

19 Q. You yourself didn't ever sit down and talk  
20 through known or potential side effects with either the  
21 child or the mother in this case, did you?

22 ATTORNEY BORELLI: Objection, form.

23 THE WITNESS: I don't remember it  
24 specifically every visit from 2016 and exactly what

1 happened.

2 BY ATTORNEY BROOKS:

3 Q. As a matter ---.

4 ATTORNEY BORELLI: Counsel, I'm sorry, I  
5 think I heard the witness say a moment ago that a break  
6 would be good. Why don't we break here? Can we come  
7 back in say ten minutes?

8 ATTORNEY BROOKS: We can say that or I  
9 can finish this paragraph.

10 ATTORNEY BORELLI: Why don't we break  
11 now. We've been going a while. Thank you.

12 VIDEOGRAPHER: Going off the record. The  
13 current time reads 2:27 p.m. Eastern Standard Time.

14 OFF VIDEO

15 ---

16 (WHEREUPON, A PAUSE IN THE RECORD WAS HELD.)

17 ---

18 ON VIDEO

19 VIDEOGRAPHER: We're back on the record.  
20 Current time reads 2:43 p.m. Eastern Standard Time.

21 BY ATTORNEY BROOKS:

22 Q. Dr. Adkins, in dealing with Drew, you have a  
23 social worker read the disclosures, the warnings. Did  
24 you, yourself, ever present to Drew options for



1 fertility preservation?

2 ATTORNEY BORELLI: Objection, form.

3 THE WITNESS: Yes, that is a conversation  
4 I have with my patients.

5 BY ATTORNEY BROOKS:

6 Q. You, yourself, have that conversation?

7 A. I do.

8 Q. Let's --- and did you explain --- I see that the  
9 disclosure --- we heard the disclosure that it's ---  
10 using testosterone to appear more masculine is off label  
11 use. Is that part of your standard disclosures?

12 ATTORNEY BORELLI: Objection, form.

13 BY ATTORNEY BROOKS:

14 Q. Do you explain to your patients that the fact  
15 that it is off label means that no studies that  
16 establish safety of use of testosterone for that purpose  
17 at the level as would be required for FDA approval have  
18 been done?

19 ATTORNEY BORELLI: Objection, form.

20 THE WITNESS: No, that wouldn't be an  
21 accurate statement. Those studies can be done. They  
22 just haven't been presented by the company manufacturing  
23 the medication to the FDA to try and get that  
24 certification from the FDA.

1 BY ATTORNEY BROOKS:

2 Q. Have you, yourself, ever participated as a  
3 physician in a so-called phase one clinica trial?

4 ATTORNEY BORELLI: Objection to form.

5 THE WITNESS: So phase one typically is  
6 dose related. I have not done those. I have done phase  
7 two, phase three and then after market.

8 BY ATTORNEY BROOKS:

9 Q. Phase one is, among other things, required to  
10 establish safety.

11 Am I correct?

12 ATTORNEY BORELLI: Objection, form.

13 THE WITNESS: That is part of the  
14 objective of a phase one study.

15 BY ATTORNEY BROOKS:

16 Q. And indeed, it is a required part of the  
17 objective.

18 Right?

19 ATTORNEY BORELLI: Objection, form.

20 THE WITNESS: Yes.

21 BY ATTORNEY BROOKS:

22 Q. And to your knowledge, has any study of safety  
23 of administering testosterone for the purpose of  
24 appearing more masculine in natal females ever been done

1 at a level of rigor that could satisfy FDA requirements?

2 ATTORNEY BORELLI: Objection, form.

3 THE WITNESS: So I don't have the FDA  
4 standards right in front of me. I have, you know, read  
5 articles that report outcomes and side effects and  
6 safety profiles. There are other testosterone --- there  
7 are testosterone products on the market that are FDA  
8 approved for using cisgender females.

9 BY ATTORNEY BROOKS:

10 Q. Do you know whether any safety study has ever  
11 been done for administration of testosterone to natal  
12 females for the purpose of appearing more masculine at a  
13 level of rigor that could satisfy FDA requirements?

14 ATTORNEY BORELLI: Objection, form.

15 THE WITNESS: I can't answer the question  
16 without, you know --- I would have to really look at the  
17 indications, the FDA rules.

18 BY ATTORNEY BROOKS:

19 Q. Okay.

20 Let's listen to a third and final clip. This  
21 one begins with a sentence the last one ended with on  
22 page five and runs just onto page six, I believe. End  
23 of page five. Let's hear that.

24

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(WHEREUPON, PODCAST AUDIO WAS PLAYED.)

---

BY ATTORNEY BROOKS:

Q. All right.

My impression, correct me or tell me if you agree, that clip is just a single unbroken bit of conversation, not pieced together from different things. Is that consistent with what you heard and what you recall?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: You know, I don't remember.

BY ATTORNEY BROOKS:

Q. Okay.

You come back in the room with a prescription in your hand, the warnings have been read while you were outside. You ask, guess what I have in my hand. You heard the clip and I see what it says there. Is the voice that says happy drugs Drew's voice or your voice?

ATTORNEY BORELLI: Objection, form.

THE WITNESS: Mine. My voice.

BY ATTORNEY BROOKS:

Q. The voice that says happy drugs is your voice. And the voice that says yay, yay, s also your voice? If

1 you want to hear it again you can.

2 A. It's not labeled that way.

3 Q. Well, yay, yay is labeled you?

4 A. Yay, yay is labeled me? Okay.

5 Q. Doctor A?

6 A. It's really confusing because it's ---.

7 Q. Let's do this. Let's listen to this one more  
8 time.

9 A. There is confusion.

10 Q. I want you to listen --- don't trust the labels.  
11 Listen to the voice on happy drugs. They may be ---.

12 ---

13 (WHEREUPON, PODCAST AUDIO WAS PLAYED.)

14 ---

15 BY ATTORNEY BROOKS:

16 Q. Whose voice says happy drugs?

17 A. That sounded like Drew.

18 Q. Okay.

19 So the labeling you believe is correct. I just  
20 wanted to double check that.

21 Are you, as a physician, in light of all of the  
22 disclosures that have just been made about potential  
23 side effects, potential harmful effects, were you  
24 comfortable with the child referring to cross sex

1 hormones as happy drugs?

2 ATTORNEY BORELLI: Objection, form.

3 THE WITNESS: So if you will recall, we  
4 use the medication to decrease dysphoria, which is a  
5 discomfort, and to improve depression. So any  
6 medication that would relieve those things could be  
7 described as a happy drug. I'm okay with that.

8 BY ATTORNEY BROOKS:

9 Q. And after Drew says happy drug you said yay,  
10 yay. Are you comfortable that's consistent with your  
11 role as a doctor in light of potential downsides and  
12 side effects of this treatment and this child's life to  
13 serve the role of a cheerleader saying yay, yay?

14 ATTORNEY BORELLI: Objection. Counsel, I  
15 just want to note for the record it's not clear from  
16 that recording that both yays are in the same voice.  
17 That's actually not what I heard.

18 ATTORNEY BROOKS: If you have an  
19 objection you can raise it later.

20 ATTORNEY BORELLI: I need to make my  
21 record now, Counsel.

22 ATTORNEY BROOKS: No, you need to raise  
23 your objection now. You get to discuss it further in  
24 front of the court.

1 BY ATTORNEY BROOKS:

2 Q. I will re-ask my question. Do you consider it  
3 consistent with your role as a physician, in light of  
4 the potential downsides and side effects from cross sex  
5 hormones for this child, for you to play the role of  
6 cheerleader saying yay?

7 ATTORNEY BORELLI: Objection, form.

8 THE WITNESS: So in my job as a physician  
9 I often am helping motivate my patients improve their  
10 overall health. And in that way I often sound like I am  
11 a cheerleader and I am trying to help them believe in  
12 themselves and understand and feel good moving forward  
13 with medication treatments to have the best likelihood  
14 of success. So I may say yay.

15 VIDEOGRAPHER: Excuse me. You got cut  
16 out there in the middle of that --- in the middle of  
17 your answer.

18 THE WITNESS: Okay.

19 Do you want me to start over?

20 ATTORNEY BROOKS: Who was that?

21 ATTORNEY WILKINSON: That was the court  
22 reporter. I can make a recording if everyone is happy  
23 with my phone just on the table so we could refer to  
24 that later if that's useful if we're concerned about the

1 audio cutting out.

2 ATTORNEY BROOKS: There is no harm in a  
3 backup recording. Voices will be identifiable. If you  
4 want to set it there by that speaker.

5 ATTORNEY WILKINSON: If you're  
6 comfortable.

7 ATTORNEY BORELLI: I just want to check  
8 --.

9 COURT REPORTER: Who is talking right  
10 now. I'm sorry, who is --- who is talking about their  
11 phone. I don't understand. Like, I don't know who's  
12 speaking.

13 ATTORNEY BROOKS: Just now my colleague  
14 Lawrence Wilkinson is proposing to set his iPhone on  
15 record by the speaker here so there will be a backup  
16 onsite recording in case anything is dropped over the  
17 internet. And that will be made available both to those  
18 who are listening and to the court reporter service.  
19 Address some of the concerns. So let's fire that up and  
20 it will be there.

21 BY ATTORNEY BROOKS:

22 Q. I will continue with my questioning. Did it  
23 cause you any concern that in referring --- by referring  
24 to a testosterone injection as happy drugs that that was



1 an indication that young Drew was not taking seriously  
2 the 20 minutes' worth of cautions and warnings that had  
3 just been read?

4 ATTORNEY BORELLI: Objection, form.

5 THE WITNESS: So given that the  
6 medication is used to decrease dysphoria and improve  
7 depressive symptoms, in that way it does make someone  
8 happier. And I have no issue with a patient who is  
9 using a general reference as happy drugs in that that is  
10 part of what will happen with the medication. I didn't  
11 have any concerns with regard to the fact that Drew may  
12 not have gotten everything he needed to understand what  
13 he was going into going forward with this medication.

14 BY ATTORNEY BROOKS:

15 Q. Let's back up to page four of the transcript.  
16 And we're not going to listen to any ore clips.  
17 Everybody will be happy to know perhaps.

18 ATTORNEY BORELLI: It's unstable.

19 THE WITNESS: There we go.

20 BY ATTORNEY BROOKS:

21 Q. Okay.

22 And towards the top of page four, the second  
23 paragraph, the narrator --- and this is not you speaking  
24 and it is not Drew's mother speaking. The narrator says

1 she doesn't like talking about what Drew's life was like  
2 before he started transitioning. But when I asked her  
3 how she knew living as a boy was the right choice for  
4 Drew, she was blunt. She said I'd rather have a living  
5 son than a dead daughter. Do you see that?

6 A. I do.

7 Q. Did you ever tell Drew's mother that that was  
8 the choice that she faced, between a living son and a  
9 dead daughter?

10 ATTORNEY BORELLI: Objection to form.

11 THE WITNESS: I would not have used that  
12 phrase. I would have discussed the risk of suicidality.

13 BY ATTORNEY BROOKS:

14 Q. Did you ever hear Drew's mother say she  
15 understood that was the choice she faced, between a  
16 living son and a dead daughter?

17 ATTORNEY BORELLI: Objection, form.

18 THE WITNESS: You know, I have heard it  
19 since then because of the podcast, so I can't remember  
20 if I heard it before then or not. I don't recall  
21 hearing it before then.

22 BY ATTORNEY BROOKS:

23 Q. When you saw the title to the podcast did you  
24 call WNYC and express any concern that that title could

1 be misleading?

2 ATTORNEY BORELLI: Objection, form.

3 THE WITNESS: I did not.

4 BY ATTORNEY BROOKS:

5 Q. Have you ever consulted research on the rate of  
6 suicide among preadolescents for any purpose?

7 ATTORNEY BORELLI: Objection to form.

8 BY ATTORNEY BROOKS:

9 Q. In any category?

10 A. Repeat the question, please.

11 Q. Have you ever consulted research or data about  
12 the rate of suicide among preadolescents, period?

13 ATTORNEY BORELLI: Objection, form.

14 THE WITNESS: Preadolescents, have I  
15 consulted research on suicidality on preadolescents, so  
16 before puberty. Not in a while.

17 BY ATTORNEY BROOKS:

18 Q. You are aware, are you not, that incidences of  
19 actual suicide are extremely rare in individuals of all  
20 categories before puberty?

21 ATTORNEY BORELLI: Objection, form.

22 THE WITNESS: That sounds consistent with  
23 the leading causes that I recall for death before  
24 puberty.

1 BY ATTORNEY BROOKS:

2 Q. And you, yourself, are not aware of a single  
3 case of suicide by a preadolescent gender dysphoria  
4 patient that has come to your clinic?

5 ATTORNEY BORELLI: Objection, form.

6 THE WITNESS: No.

7 BY ATTORNEY BROOKS:

8 Q. And have you consulted any research on the rate  
9 of actual suicide by children suffering from gender  
10 dysphoria under the age of 15?

11 ATTORNEY BORELLI: Objection, form.

12 THE WITNESS: Have I? Yes.

13 BY ATTORNEY BROOKS:

14 Q. And what did that --- what source do you have in  
15 mind when you say that?

16 ATTORNEY BORELLI: Objection, form.

17 THE WITNESS: Again, I have trouble with  
18 remembering and there is a wide variety of reports, some  
19 as --- from 25 to 30 percent, some as high as 40  
20 percent. And those are suicide attempts, as I recall,  
21 which means that the folks that died wouldn't have even  
22 been identified.

23 BY ATTORNEY BROOKS:

24 Q. Well, you are aware that there's a very wide

1 statistical gap between suicide attempts and suicides.

2 Correct?

3 ATTORNEY BORELLI: Objection to form.

4 THE WITNESS: There is some variation  
5 between suicide attempts and what was the word, suicide  
6 ideation, yeah.

7 BY ATTORNEY BROOKS:

8 Q. No. What I said is there is a very wide gap  
9 between suicide attempts and actual completed suicide?

10 ATTORNEY BORELLI: Objection, form.

11 THE WITNESS: There is a gap between.  
12 Not every one who attempts. Otherwise, there wouldn't  
13 be a difference in the name.

14 BY ATTORNEY BROOKS:

15 Q. In fact, you know as a matter of professional  
16 expertise that it is a very wide gap, do you not?

17 ATTORNEY BORELLI: Objection.

18 THE WITNESS: I would have to look at the  
19 literature, at what the numbers look like and describing  
20 it why is an opinion.

21 BY ATTORNEY BROOKS:

22 Q. Has any patient of the 500 under your care ever  
23 committed suicide at an age younger than 14?

24 ATTORNEY BORELLI: Objection, form.

1                   THE WITNESS:   Excuse me.   No.

2   BY ATTORNEY BROOKS:

3           Q.       Have you followed up so that you have current  
4   information about Drew's mental, physical and social  
5   health as of today, which would be about age 21?

6                   ATTORNEY BORELLI:   Objection, form.

7                   THE WITNESS:   Drew's no longer my  
8   patient, has transitioned to adult care.   That's not  
9   what I do, so I don't have access to that.

10   BY ATTORNEY BROOKS:

11           Q.       What procedures do you have in place, if any, in  
12   your clinic to follow up long term with those whom you  
13   have prescribed puberty blockers or cross sex hormones  
14   for?

15                   ATTORNEY BORELLI:   Objection, form.

16                   THE WITNESS:   So you know, here at Duke  
17   we have a multidisciplinary team.   As --- I don't know  
18   if I mentioned them before.   It includes a wide variety  
19   of individuals.   And that group discusses every month  
20   our patients, any concerns or questions.   In addition,  
21   that group has put together a registry that starts when  
22   they come to my clinic and we follow their health, their  
23   mental health through the time that they are in our  
24   clinic and then when --- oops.   Sorry.   And then when

1 they are adults transitioning to our adult care team.

2 And in that way I'm able to keep up with those patients

3 who remain at Duke for adult care.

4 BY ATTORNEY BROOKS:

5 Q. So you have been practicing this field I think

6 you said since about 2013. And the patients that you

7 saw let's say in 2013, 2014, 2015, I think you said most

8 of your patients presented older than age --- I don't

9 recall exactly. Your average presentation is older than  
10 13?

11 ATTORNEY BORELLI: Object to the form.

12 THE WITNESS: Yes.

13 ATTORNEY BORELLI: You got to pause so I  
14 can get in an objection.

15 THE WITNESS: Oh, yeah. Yeah.

16 BY ATTORNEY BROOKS:

17 Q. So --- yeah. So those patients on average are  
18 now in their upper teens or perhaps 20?

19 ATTORNEY BORELLI: Objection, form.

20 THE WITNESS: Let's see. I have patients  
21 who are older than that. I'm not sure of an average. I  
22 have not calculated an average.

23 BY ATTORNEY BROOKS:

24 Q. Do you have any procedures in place to attempt

1 to monitor the mental health of your patients five years  
2 after you first prescribe puberty blockers or cross sex  
3 hormones?

4 ATTORNEY BORELLI: Objection, form.

5 THE WITNESS: The patients that remain  
6 within our registry do have regular mental health  
7 follow-up. We have a team on the adult side as well in  
8 both of the two clinics that we work with.

9 BY ATTORNEY BROOKS:

10 Q. What percentage of your patients that you  
11 yourself have authorized cross sex hormones do you have  
12 access to data about their mental health five years  
13 after initiation of hormone treatment?

14 ATTORNEY BORELLI: Objection, form.

15 THE WITNESS: Some are still present in  
16 the clinic. I would have access to those. You know,  
17 I'm not supposed to access records specifically if  
18 they're no longer in my care. The provider can reach  
19 out to me with concerns and have a very close  
20 relationship with the adult providers and they do ask me  
21 questions about some of those. So in that way I would  
22 have access as well as when we calculate on a population  
23 base within our registry any outcomes there.

24 BY ATTORNEY BROOKS:



1 Q. As a matter of research, has --- have you or  
2 anybody associated with your clinic attempted a  
3 follow-up survey or systematic series of interviews of  
4 all patients who were prescribed hormones within, for  
5 instance, some particular time period?

6 ATTORNEY BORELLI: Objection, form.

7 THE WITNESS: So we currently are  
8 enrolling patients in that study. It's not complete.

9 BY ATTORNEY BROOKS:

10 Q. As we sit here today, you don't have any  
11 systematic reasonably thorough information on the mental  
12 health condition of let's say patients for whom you  
13 first prescribed hormonal interventions five years ago.

14 Is that correct?

15 ATTORNEY BORELLI: Objection. Objection  
16 to form.

17 THE WITNESS: I would consider, you know,  
18 a registry with research based systematic method.

19 BY ATTORNEY BROOKS:

20 Q. A registry with research based ---?

21 A. That is research based is a systematic program  
22 to do that and find out follow-up.

23 Q. What do you mean by registry that it is research  
24 based?

1           A.       A registry is a list of patients who are  
2 enrolled in a study, if it's done as a research  
3 protocol. And within that registry, you collect  
4 information that you choose to record that's important  
5 and then you follow that over time in a systematic way.

6                                    ATTORNEY BROOKS:    Let me grab tab 29 ---  
7    let me mark as Exhibit 16 a document previously  
8    designated as tab 29, which is article entitled --- I  
9    should say a newspaper article entitled The Mental  
10   Health Establishment is Failing Trans Kids by Laura  
11   Edwards Leeper and Erica ---.

12 | ---

13 (Whereupon, Adkins Exhibit 16, 2021  
14 Washington Post Article, was marked for  
15 identification.)

16 | ---

17 BY ATTORNEY BROOKS:

18 Q. And Dr. Adkins, am I correct that this in the  
19 Washington Post came out in November of 2021 stirred up  
20 quite a bit of discussion within your profession?

21 ATTORNEY BORELLI: Objection, form.

22                               THE WITNESS:   I understand that there was  
23   an article by Laura Edwards Leeper that there was a lot  
24   of conversation around.   I don't know if it was this

1 one. It is possible.

2 BY ATTORNEY BROOKS:

3 Q. Did you read this?

4 A. I haven't read this article.

5 Q. There was a lot of conversation around a recent  
6 article by Dr. Edwards Leeper and Dr. Anderson but you  
7 didn't bother to read it?

8 ATTORNEY BORELLI: Objection to form.

9 THE WITNESS: I have had discussions with  
10 my colleagues around the substance. I haven't had the  
11 time to read it.

12 BY ATTORNEY BROOKS:

13 Q. Have you had professional interactions in the  
14 past with Dr. Edwards Leeper?

15 ATTORNEY BORELLI: Objection, form.

16 THE WITNESS: It's possible that we  
17 taught at a same conference once, but I don't recall  
18 ever having a conversation.

19 BY ATTORNEY BROOKS:

20 Q. And have you had professional interactions with  
21 Dr. Anderson?

22 ATTORNEY BORELLI: Objection, form.

23 THE WITNESS: I have not.

24 BY ATTORNEY BROOKS:

1 Q. Are you generally aware of Dr. Edwards Leeper's  
2 reputation in the field?

3 ATTORNEY BORELLI: Objection, form.

4 THE WITNESS: Yes.

5 BY ATTORNEY BROOKS:

6 Q. How would you describe that reputation at least  
7 prior to publication of this article?

8 ATTORNEY BORELLI: Objection, form.

9 THE WITNESS: In general, I would not  
10 necessarily say that it has changed. People have  
11 respect for Dr. Edwards Leeper and her publications in  
12 general. I don't know about specific ---.

13 BY ATTORNEY BROOKS:

14 Q. People generally have respect for her  
15 publications?

16 A. Generally. I don't know about every one.

17 Q. Sure. Were you invited to participate as a  
18 member of the committee to revise the WPATH so-called  
19 standards of care relating to treatment of transgender  
20 individuals?

21 ATTORNEY BORELLI: Objection, form.

22 THE WITNESS: I was.

23 BY ATTORNEY BROOKS:

24 Q. Are you doing that?

1 A. No.

2 Q. And did you participate in the task force for  
3 the American Psychological Association, which developed  
4 guidelines for practice guidelines for work with  
5 transgender individuals?

6 ATTORNEY BORELLI: Objection, form.

7 THE WITNESS: I have not participated in  
8 that, no.

9 BY ATTORNEY BROOKS:

10 Q. Okay.

11 And let me mark the next one, which is an  
12 article that consists of an interview with Dr. Anderson.  
13 This I will mark as Exhibit 17?

14 ---

15 (Whereupon, Adkins Exhibit 17, Anderson  
16 Interview, was marked for  
17 identification.)

18 ---

19 BY ATTORNEY BROOKS:

20 Q. And I believe I asked if you knew her or are you  
21 familiar with the reputation of Dr. Anderson, Dr. Laura  
22 Anderson?

23 ATTORNEY BORELLI: Objection, form.

24 THE WITNESS: Actually, no.

1 BY ATTORNEY BROOKS:

2 Q. So as a representation there I know that Dr.  
3 Anderson is transgender, is a natal male who's been  
4 living with a female gender identity for many years.  
5 That you don't know about one way or the other?

6 ATTORNEY BORELLI: Objection, form.

7 THE WITNESS: I do not know that.

8 BY ATTORNEY BROOKS:

9 Q. Okay.

10 Let me take you back to Exhibit --- sorry, what  
11 was the first one we marked? Was it 17 and 18 or 16 and  
12 17?

13 ATTORNEY WILKINSON: Sixteen (16) and 17,  
14 16 and 17.

15 BY ATTORNEY BROOKS:

16 Q. Let me take you back to Exhibit 16. And the  
17 first paragraph contains a narrative. I have no idea  
18 whether it is a specific narrative or kind of case study  
19 narrative about this girl Patricia who told her parents  
20 she was transgender at age 13. It goes on to say that a  
21 year earlier she had been sexually assaulted by an older  
22 girl. Do you know what percentage of natal females who  
23 come to your clinic after the beginning of puberty have  
24 experienced sexual assault before they present to you?

1                    ATTORNEY BORELLI: Objection, form.

2                    THE WITNESS: I can't give you a  
3 percentage. It is something that we discuss with every  
4 patient in their intake assessment.

5 BY ATTORNEY BROOKS:

6            Q. Do you believe that natal females who have  
7 suffered sexual assault are disproportionately  
8 represented among the population who present  
9 experiencing gender dysphoria or gender incongruence?

10                   ATTORNEY BORELLI: Objection, form.

11                   THE WITNESS: So those assigned female at  
12 birth, I can't say that based on my review of my  
13 information that they are overrepresented. And I would  
14 have to have a comparison group. You know, one in four  
15 cisgender women have been attacked sexually at some  
16 point in their life. It's hard to get around that.

17 BY ATTORNEY BROOKS:

18            Q. Let me ask you to turn to page three of Exhibit  
19 16.

20            A. I'm sorry ---.

21            Q. Page three, Exhibit 16.

22            A. Okay. Thank you. I just had a drink of water.

23            Q. Of course.

24            A. They're not labeled on my paper.

1 Q. The pages are not. You are right. I wrote them  
2 on mine. You would have to count them to be sure, but  
3 the third page.

4 A. I think I got it.

5 Q. These authors, Doctors Edwards Leeper and  
6 Anderson, state at the end of the paragraph at the top  
7 of page three that, quote, we may be harming some of the  
8 young people we strive to support, people who may not be  
9 prepared for the gender transitions they are being  
10 rushed into, closed quote.

11 Do you see that?

12 A. Where again?

13 Q. It's the very last sentence of the partial  
14 paragraph at the top?

15 A. Right. Got it. Thank you. Yeah, I see it.

16 Q. Do you share that concern expressed by Dr.  
17 Edwards Leeper and Dr. Anderson that is that some young  
18 people are being rushed into transitions and may be  
19 harmed rather than supported as a result?

20 ATTORNEY BORELLI: Objection, form.

21 THE WITNESS: So if you're following the  
22 recommendations there's at least six months of time. In  
23 my general experience it is years before they even  
24 present to my clinic. So I don't --- I would not say



1 that that's a rush.

2 BY ATTORNEY BROOKS:

3 Q. Well, and my question wasn't about your clinic  
4 now. My question was do you share the concern of these  
5 authors that looking around the practice more generally  
6 that some young people are being harmed rather than  
7 supported because they are being rushed into transitions  
8 they may not be fully prepared for?

9 ATTORNEY BORELLI: Objection, form.

10 THE WITNESS: So within research and  
11 within my conversations with my colleagues who are doing  
12 similar work, we practice similarly. I don't agree that  
13 they are rushing these kids.

14 BY ATTORNEY BROOKS:

15 Q. Let me ask you to turn over to the next page.  
16 And there in the second paragraph from the bottom is a  
17 sentence that begins in a recent study. Do you see that  
18 sentence?

19 A. I must not be on the right page.

20 Q. It is the penultimate page.

21 A. In the ---.

22 Q. In the penultimate paragraph.

23 A. Providers, that one?

24 Q. In a recent study of 100 detransitioners. I

1 think it does, it begins ---.

2 A. Okay. All right.

3 Q. Within that you'll find the sentence that begins  
4 in recent study.

5 A. Got it.

6 Q. And it says in a recent study 100  
7 detransitioners, for instance, 38 percent reported that  
8 they believed their original dysphoria have been caused  
9 by something specific such as trauma, abuse or mental  
10 health condition, closed quote.

11 Do you see that?

12 A. I do.

13 Q. Are you, yourself, aware of a recently published  
14 survey of 100 detransitioners by Dr. Litman of Brown  
15 University?

16 ATTORNEY BORELLI: Objection, form.

17 THE WITNESS: I have not seen that  
18 report.

19 BY ATTORNEY BROOKS:

20 Q. Are you aware of that?

21 ATTORNEY BORELLI: Objection to form.

22 THE WITNESS: No, actually. Again, I  
23 don't remember names, so when you ask me about an  
24 article by Doctor Brown, I know 100 Doctor Brown. And I

1 have seen some articles about de-transition. So without  
2 that in front of me to really say, yes, I've seen that  
3 article --- it's possible. I do my best to keep up on  
4 the literature.

5 BY ATTORNEY BROOKS:

6 Q. All right. I'm used to wetting my fingers ---  
7 let me take you back to the previous page, the third  
8 paragraph --- and the paragraph begins comprehensive  
9 assessment. Do you see that paragraph?

10 A. Yes.

11 Q. And at the end of that the last sentence reads  
12 the messages that teens get from Tik-Tok and other  
13 sources may not be very productive for understanding  
14 this constellation of issues, referring to gender  
15 dysphoria-related issues. Do you see that sentence?

16 A. I do.

17 Q. Do you share the concern of these authors, young  
18 people are being unduly influenced on issues of gender  
19 identity by social media messages?

20 ATTORNEY BORELLI: Objection to form.

21 THE WITNESS: As a pediatrician, I have  
22 my reservations about social media and their effects on  
23 teens. Always reminding teens in my care that they need  
24 to check their sources and that TikTok isn't, for

1 example, peer reviewed and that they should rely on, you  
2 know, the knowledge of their provider. And they're free  
3 to ask those questions and learn that information from a  
4 reliable person within our clinic.

5 BY ATTORNEY BROOKS:

6 Q. Do you share the concern that teens are  
7 particularly subject to peer pressure through social  
8 media?

9 ATTORNEY BORELLI: Objection, form.

10 THE WITNESS: So you know, peer pressure  
11 is a recognized phenomenon with adolescents that can  
12 affect teens.

13 BY ATTORNEY BROOKS:

14 Q. Is your clinic seeing an increasing number of  
15 older teens or young adults who are considering  
16 de-transitioning?

17 ATTORNEY BORELLI: Objection, form.

18 THE WITNESS: I'm sorry. Repeat the very  
19 first part of that.

20 BY ATTORNEY BROOKS:

21 Q. Is your clinic seeing an increasing number of  
22 older teens or young adults who are considering  
23 de-transitioning?

24 ATTORNEY BORELLI: Objection, form.

1                   THE WITNESS:   Increasing over time ---

2   BY ATTORNEY BROOKS:

3       Q.       Yes.

4       A.       --- or in the past?  I wouldn't say the rate has  
5   increased in my clinic.

6       Q.       Within the last --- well, let's say within 2021  
7   or whatever of 2022 there has been, how many patients  
8   have raised with you or to your knowledge anyone in your  
9   clinic the possibility of de-transitioning?

10                  ATTORNEY BORELLI:  Objection, form.

11                  THE WITNESS:  In that timeframe, I would  
12   have to look back exactly.  Only three.

13   BY ATTORNEY BROOKS:

14       Q.       Are you aware of multiple reports that the  
15   proportion of young people presenting with gender  
16   dysphoria or gender incongruence among teens has shifted  
17   heavily towards girls over the last decade?

18                  ATTORNEY BORELLI:  Objection, form.

19                  THE WITNESS:  You will have to clarify  
20   the question because girls ---.

21   BY ATTORNEY BROOKS:

22       Q.       Are you aware that the proportion of teens  
23   presenting at clinics with gender dysphoria or gender  
24   incongruence who are natal female has increased greatly

1 over the last decade?

2 ATTORNEY BORELLI: Objection, form.

3 THE WITNESS: I have seen at least one  
4 study would suggest that. It has not been my clinical  
5 experience.

6 BY ATTORNEY BROOKS:

7 Q. That has not been the experience in your clinic?

8 A. No.

9 Q. Let me take you to paragraph 18 of your expert  
10 report. And there you express the opinion that a  
11 person's gender identity cannot be voluntarily changed  
12 and is not undermined or altered by the existence of  
13 other sexually related characteristics that do not align  
14 with it. Do you see that?

15 A. I do.

16 Q. And let me, in fact, have the Declaration ---  
17 the preliminary injunction declaration, which is tab one.

18 ATTORNEY BROOKS: I'm going to mark that  
19 as Exhibit --- or did I already mark it?

20 ATTORNEY WILKINSON: Not marked.

21 ATTORNEY BROOKS: I did not. So what  
22 exhibit was that?

23 ATTORNEY WILKINSON: Eighteen (18).

24 ATTORNEY BROOKS: We will mark the

1 Declaration of Deanna Adkins dated 5/21/2021 as Exhibit  
2 18.

3 ---

4 (Whereupon, Adkins Exhibit 18,  
5 Declaration of Deanna Adkins, M.D., was  
6 marked for identification.)

7 ---

8 BY ATTORNEY BROOKS:

9 Q. And in this document also I want to call your  
10 attention to paragraph 18. And in the declaration filed  
11 in May of last year in paragraph 18 you wrote a person's  
12 gender identity is fixed. Do you see that language?

13 A. I do.

14 Q. And you eliminated the word --- the assertion  
15 that a person's gender identity is fixed from your  
16 expert declaration submitted more recently. Do you see  
17 that?

18 A. I do.

19 Q. Why did you make that omission?

20 A. I think that it's too easy to misinterpret.

21 Q. Explain.

22 A. So when I'm talking about someone's gender  
23 identity it is what it is. And nothing that I do or  
24 they do or their family does can change that gender

1 identity. Their understanding of that gender identity  
2 may change over time. And that was my --- what I was  
3 trying to say was not changeable. And when you use the  
4 other word it seems that it could be misinterpreted to  
5 me.

6 Q. So you don't mean to say that gender identity  
7 never changes in individuals, do you?

8 ATTORNEY BORELLI: Objection, form.

9 THE WITNESS: That's not what I said. I  
10 said gender identity is what it is. And your  
11 understanding of it may change over time.

12 BY ATTORNEY BROOKS:

13 Q. We looked in the Endocrine Society Guidelines,  
14 at the language that refers to individuals who  
15 experience a continuous and rapid involuntary  
16 alternation between male and female. Do you remember  
17 that language?

18 A. I do.

19 Q. How does that relate --- how is that consistent  
20 with your opinion that gender identity is fixed and  
21 means what it is?

22 ATTORNEY BORELLI: Objection, form.

23 THE WITNESS: So gender identity is that  
24 it moves somewhat along the spectrum. That doesn't



1 change. That is their identity.

2 BY ATTORNEY BROOKS:

3 Q. That doesn't change, but you have a professional  
4 opinion that individuals who experience a gender fluid  
5 identity at some period in their life inevitably remain  
6 gender fluid for the rest of their lives?

7 ATTORNEY BORELLI: Objection, form.

8 THE WITNESS: Understanding their gender  
9 identity may change, what the identity is, is under  
10 exploration throughout their lives. From the time  
11 they're young they're discovering their gender identity.

12 BY ATTORNEY BROOKS:

13 Q. Well, you consider part of your professional  
14 practice to believe what people tell you about their  
15 gender identity, don't you?

16 ATTORNEY BORELLI: Objection, form.

17 THE WITNESS: The gender identity is  
18 something that can only be explained by a person because  
19 it is their knowledge of themselves.

20 BY ATTORNEY BROOKS:

21 Q. And if a person at one point in time feels that  
22 their gender identity is fluid and another point in time  
23 feels that it is not, on what basis do you say that  
24 their true gender identity hasn't changed?

1 | ATTORNEY BORELLI: Objection, form.

2                                    THE WITNESS:    Everyone's gender identity  
3    is how they explain it.    They may understand it  
4    differently over time.    Just because I say I don't like  
5    strawberries when I'm eight and I do like strawberries  
6    now doesn't meant I never liked strawberries to begin  
7    with.    It means I finally had a good strawberry.

8                            ATTORNEY BROOKS:    Let me have tab 12.

9    Let me mark as Exhibit 20.

10 ATTORNEY WILKINSON: Nineteen (19).

11                                    ATTORNEY BROOKS:    Let me mark as Exhibit  
12    19, an article from Herbert Health Publishing by Sadra  
13    Katz-Wise, entitled Gender Fluidity: What it Means and  
14    Why Support Matters.

15 | ---

16 (Whereupon, Adkins Exhibit 19, 2020  
17 Herbert Health Publishing Article, was  
18 marked for identification.)

19 | ---

20 BY ATTORNEY BROOKS:

21 Q. First I'll ask if you have any professional  
22 contact with Doctor Sadra Katz-Wise?

23           A.       I don't see the name spelled out.  It doesn't  
24   sound familiar.

1 Q. It's just under the graphic here ahead of the  
2 text. You'll see the name.

3 A. Oh, in red. That's why I didn't see it.

4 Q. Yeah, exactly. Right.

5 A. Got it. Katz-Wise. No.

6 Q. I see, when I look her up, that Dr. Katz-Wise is  
7 associated with Boston Children's Hospital and Harvard  
8 Medical School. That doesn't refresh your recollection  
9 as to any previous professional interactions with her?

10 A. Again, I'm terrible with names.

11 Q. You're aware that Boston Children's Hospital has  
12 a high reputation in the area of transgender therapy?

13 ATTORNEY BORELLI: Objection, form.

14 THE WITNESS: Well, they have been  
15 involved in transgender therapy for a long time.

16 BY ATTORNEY BROOKS:

17 Q. And they have a high reputation?

18 ATTORNEY BORELLI: Objection, form.

19 THE WITNESS: In general people feel like  
20 they do a good job.

21 BY ATTORNEY BROOKS:

22 Q. Let me ask you to turn to the second page. And  
23 down at the bottom is a heading that says what's the  
24 difference between gender fluid and transgender. Do you

1 see that?

2 A. I do.

3 Q. And the first sentence there says while some  
4 people develop a gender identity early in childhood,  
5 others may identify with one gender at one time and then  
6 another gender later on.

7 Do you see that?

8 A. I do.

9 Q. And do you agree or disagree with that statement  
10 by Dr. Sabar Katz-Wise?

11 ATTORNEY BORELLI: Objection, form.

12 THE WITNESS: So she is not saying that  
13 their gender identity changes. You know, at different  
14 times in your life your understanding may be that this  
15 is the group that I belong with. And as you learn more  
16 about your experience and your gender, that can change.

17 BY ATTORNEY BROOKS:

18 Q. Dr. Adkins, how do you as a clinician --- if you  
19 have a patient who at one time identifies one way and  
20 another time identifies another way, how do you as a  
21 clinician determine which of those is that patient's  
22 true gender identity, given that you've said that gender  
23 identity is something that only the patient can express  
24 to you?

1                    ATTORNEY BORELLI: Objection, form.

2                    THE WITNESS: So you know, we're not sort  
3 of doing anything to influence that in our patients  
4 until they come to us later and have had lots of time to  
5 reflect on that. They by the guidelines need to have at  
6 least six months of identification with and  
7 understanding that gender identity is a particular way.  
8 And typically gender identity is starting to consolidate  
9 in adolescence and have a good understanding of your  
10 identity at that time.

11 BY ATTORNEY BROOKS:

12            Q.        What do you understand to be meant by the term  
13 gender incongruence?

14            A.        It is similar to the gender identity not  
15 matching your sex assigned at birth.

16            Q.        Let me ask you to find Exhibit 4, 2007 Endocrine  
17 Society guidelines. And turn if you would to page 3879,  
18 first column under the heading evidence, it reads in  
19 most children diagnosed with GD/gender incongruence it  
20 did not persist into adolescence.

21                    Do you see that?

22            A.        I did.

23            Q.        So the point here is that these children were,  
24 in fact, diagnosed with gender dysphoria or gender

1 incongruence which you just said means that their gender  
2 identity doesn't match their gender assigned at birth.  
3 And then the Endocrine Society goes on to say that that  
4 identity, that sense of incongruence does not persist  
5 into adolescence.

6 Do you see that?

7 ATTORNEY BORELLI: Objection, form.

8 THE WITNESS: I do.

9 BY ATTORNEY BROOKS:

10 Q. And how do you reconcile that with your  
11 previously expressed opinion that gender identity is,  
12 quote, fixed?

13 ATTORNEY BORELLI: Objection, form.

14 THE WITNESS: So this is a random piece  
15 out of this whole publication. They are talking --- as  
16 far as I can tell right here, and again I would be  
17 speculating, that it is about a particular piece of  
18 medical evidence. And medical evidence in this area has  
19 varied. It's based on the different groups and the way  
20 they were recruited, et cetera.

21 BY ATTORNEY BROOKS:

22 Q. Well, you're --- never mind on a particular  
23 piece. You're well aware, are you not, that there are  
24 multiple studies that indicate the substantial majority

1 of children who are diagnosed with gender dysphoria  
2 desist from experiencing gender dysphoria by some stage  
3 in adolescence?

4 ATTORNEY BORELLI: Objection, form.

5 BY ATTORNEY BROOKS:

6 Q. You discuss that in your report, do you not?

7 A. I'm sorry. Can you repeat the question?

8 Q. You are aware that there are multiple studies  
9 that have found that children diagnosed with gender  
10 dysphoria, the large majority of those individuals  
11 desist from experiencing gender dysphoria by some time  
12 in adolescence?

13 ATTORNEY BORELLI: Objection, form.

14 THE WITNESS: And I don't typically see  
15 those patients in my clinic.

16 BY ATTORNEY BROOKS:

17 Q. But you're aware of the science that is  
18 described though.

19 Right?

20 ATTORNEY BORELLI: Objection, form.

21 THE WITNESS: There are patients ---  
22 there are studies that were done in the past that were  
23 not well done and had a bias with the recruitment that  
24 overlapped with other issues. I'm aware of those

1 studies. And children are not being treated in my  
2 clinic for gender dysphoria. Adolescents are who we  
3 treat in our clinic.

4 BY ATTORNEY BROOKS:

5 Q. Well, the study that the Endocrine Society chose  
6 to cite for this proposition just a little lower in that  
7 paragraph it says as follows. And this is 2017  
8 Endocrine Society Guidelines. They say a large  
9 majority, about 85 percent of prepubertal children with  
10 a childhood diagnosis did not remain gender  
11 dysphoric/gender incongruent into adolescence.

12 Do you see that language?

13 A. I see that language.

14 Q. And this Endocrine Society considered that  
15 science worth citing rather than dismissing it as poorly  
16 done, as you just attempted.

17 Correct?

18 ATTORNEY BORELLI: Objection, form.

19 THE WITNESS: In your goals in creating  
20 guidelines you want to be presenting the information  
21 that's available. This study is available.

22 BY ATTORNEY BROOKS:

23 Q. And the study in question is one by some of the  
24 most highly respected researchers in the field.



1 Am I correct?

2 ATTORNEY BORELLI: Objection.

3 BY ATTORNEY BROOKS:

4 Q. I see you looking at the footnote?

5 A. Right.

6 Q. Those are among the most highly respected  
7 researchers in the field.

8 Correct?

9 A. They are some of the --- they're some of the  
10 original researchers.

11 Q. And to this very day they are among the most  
12 highly respected in the field.

13 Am I right?

14 ATTORNEY BORELLI: Objection, form.

15 THE WITNESS: In general, they are doing  
16 good research and publications. I can't say everything  
17 they do is beautiful.

18 BY ATTORNEY BROOKS:

19 Q. Dr. Adkins, do you refuse to acknowledge that  
20 Dr. Steemsma, DeVries and Cohen-Kettenis are among the  
21 most highly respected researchers in your field?

22 ATTORNEY BORELLI: Objection, form.

23 THE WITNESS: Of their work that I have  
24 read and seen in general it is based on standards of

1 medical literature done well, though I have not read  
2 every study. I'm not going to comment on everything  
3 that they have done. A lot of the things I'm aware of  
4 are done well.

5 BY ATTORNEY BROOKS:

6 Q. I didn't ask you to comment on a single one of  
7 their articles. I asked you isn't their reputation  
8 among the highest in your field?

9 ATTORNEY BORELLI: Objection, form.

10 THE WITNESS: If --- for gender-affirming  
11 care, yes.

12 BY ATTORNEY BROOKS:

13 Q. Thank you. How does their finding in large  
14 majority of children diagnosed with gender dysphoria  
15 desist from experiencing gender dysphoria by some stage  
16 in adolescence square with your opinion that gender  
17 identity is, quote, fixed?

18 ATTORNEY BORELLI: Objection, form.

19 THE WITNESS: I'm sorry. Where are you  
20 reading from and what was that again?

21 BY ATTORNEY BROOKS:

22 Q. How does their finding that large majority of  
23 children diagnosed with gender dysphoria before puberty  
24 desist from experiencing gender dysphoria by some stage

1 in adolescence fit with your expressed opinion that  
2 gender identity is fixed?

3 ATTORNEY BORELLI: Objection, form.

4 THE WITNESS: So they are talking about  
5 prepubertal children. Prepubertal children haven't gone  
6 through their real under --- development of  
7 understanding of their gender identity or their  
8 consolidation of gender identity at that time. It's  
9 kind of a false endpoint to put it that way because  
10 we're not really again treating these young children and  
11 we're not changing anything about them. These patients  
12 wouldn't even come to my clinic.

13 BY ATTORNEY BROOKS:

14 Q. You don't see prepubertal children at your  
15 clinic?

16 ATTORNEY BORELLI: Objection, form.

17 THE WITNESS: Very rarely.

18 BY ATTORNEY BROOKS:

19 Q. And?

20 A. Gender clinic?

21 Q. Patients you treat in any capacity?

22 ATTORNEY BORELLI: Objection to form.

23 THE WITNESS: I see all kinds of patients  
24 from birth until --- I'm credentialed to 30.

1 BY ATTORNEY BROOKS:

2 Q. Do you in your professional work deal with  
3 prepubertal children who are experiencing gender  
4 dysphoria?

5 ATTORNEY BORELLI: Objection, form.

6 THE WITNESS: Some.

7 BY ATTORNEY BROOKS:

8 Q. Okay.

9 And do you want to revise the statement in your  
10 report to say instead that after puberty gender identity  
11 is fixed?

12 ATTORNEY BORELLI: Objection, form.

13 THE WITNESS: Will you point that out to  
14 me?

15 BY ATTORNEY BROOKS:

16 Q. I'm sorry, point what out to you?

17 A. That particular statement in my report.

18 Q. I misspoke. You asserted in your declaration  
19 that gender identity was fixed and my question is on  
20 consideration would you prefer to say that gender  
21 identity is fixed after puberty has occurred?

22 ATTORNEY BORELLI: Objection, form.

23 THE WITNESS: So I didn't put that in a  
24 way that --- again, we eliminated the word fixed because

1 of the easy ability to misconstrue that. People undergo  
2 a period of time in life where they understand their  
3 gender better than other times. And puberty is part of  
4 --- part of the mix.

5 BY ATTORNEY BROOKS:

6 Q. So --- and this is the opportunity --- you're  
7 here, so we're not going to misunderstand your words.  
8 You signed and swore to an affidavit last year in which  
9 you said gender identity is fixed. I'm giving you an  
10 opportunity if you want to clarify or qualify that. And  
11 my question to you is, is it now your testimony that  
12 gender identity is fixed once puberty has occurred?

13 ATTORNEY BORELLI: Objection, form.

14 THE WITNESS: Again, I think we have  
15 another document here that doesn't use the word fixed.  
16 Would you like me to go back and read that part? I can  
17 read through it and find it for you.

18 BY ATTORNEY BROOKS:

19 Q. No. I would like to work with your sworn  
20 document from May of last year in which you said it was  
21 fixed.

22 A. When we update documents we try to clarify  
23 anything that might be confusing.

24 Q. Dr. Adkins, in May of 2021, which is not so long

1 ago, you swore under oath that it was your professional  
2 opinion that gender identity was fixed. I'm entitled to  
3 ask you about that. The fact that you wanted to change  
4 a later document is interesting. It doesn't deprive me  
5 of the right to ask you questions about that document.

6 My question for you now is do you want to revise  
7 that statement to express the opinion that gender  
8 identity is fixed after puberty?

9 ATTORNEY BORELLI: Objection, form. I  
10 apologize, Counsel. Can we --- I'm sorry, just lost  
11 track. Have you introduced the PI declaration?

12 ATTORNEY BROOKS: I have.

13 ATTORNEY BORELLI: What exhibit number is  
14 it?

15 ATTORNEY BROOKS: It is 18. Paragraph  
16 18.

17 ATTORNEY BORELLI: Paragraph 18. Thank  
18 you. Objection to form.

19 THE WITNESS: So I don't think that my  
20 description of people's understanding of gender identity  
21 and the way that we understand its development has  
22 changed. I can't do anything to change their identity.  
23 You can't do it. Their parents can't do it. And in  
24 that way I still agree with the fact that in the way

1 that that was meant to be stated, that it can't be  
2 changed. Fixed is a similar word. I use that word.

3 BY ATTORNEY BROOKS:

4 Q. So and I didn't ask you about our ability to  
5 change somebody else. Let me ask you a different  
6 question. At which developmental stage in your  
7 professional opinion does gender identity become fixed?

8 ATTORNEY BORELLI: Objection, form.

9 THE WITNESS: Again, I believe I said  
10 already that gender identity is what it is from the time  
11 you are young. Your understanding of that develops over  
12 time based on your path through life. That --- in that  
13 way you can't change it.

14 BY ATTORNEY BROOKS:

15 Q. Does that mean that if, according to Steemza and  
16 Cohen-Kettenis, 85 percent of prepubertal children who  
17 are diagnosed with gender dysphoria ultimately desist  
18 from experiencing dysphoria, that their original  
19 diagnoses were wrong?

20 ATTORNEY BORELLI: Objection to form.

21 THE WITNESS: So there are a lot of  
22 individuals who have looked at that information and felt  
23 that the original group of individuals didn't have a  
24 transgender identity. In a young group that's hard to

1 assess at times. And so I would say in that way, you  
2 know, we --- it's just not the same. And you can repeat  
3 the question for me, please.

4 ATTORNEY BORELLI: We have been going an  
5 hour. I'd like to take a break.

6 ATTORNEY BROOKS: Let me repeat the  
7 question since I was just invited to do so.

8 BY ATTORNEY BROOKS:

9 Q. I believe you testified that it is your view  
10 that one's gender identity never changes from infancy to  
11 adulthood although one's understanding of it may change  
12 over time. My question for you now is does that mean  
13 that in every case in which a child is diagnosed as  
14 gender dysphoric and they subsequently desist from  
15 gender dysphoria that the original diagnosis was wrong?

16 ATTORNEY BORELLI: Objection, form.

17 THE WITNESS: So you know, at the time  
18 that their understanding of their identity was different  
19 from their sex assigned at birth when they were a child,  
20 if that was the case, and it is not clear in that study  
21 that that was necessarily the case, that the individuals  
22 felt dysphoria about that, that is what happened to  
23 them. Their understanding of their identity, if it  
24 changed over time, it may relieve some of that gender



1 dysphoria. I guess that's the best way I can state it.

2 ATTORNEY BROOKS: Let's take that break.

3 THE WITNESS: Thank you.

4 VIDEOGRAPHER: Going off the record. The  
5 current time reads 3:43 p.m. Eastern Standard Time.

6 OFF VIDEO

7 ---

8 (WHEREUPON, A PAUSE IN THE RECORD WAS HELD.)

9 ---

10 ON VIDEO

11 VIDEOGRAPHER:

12 We're back on the record. The current  
13 time is 3:59 p.m. Eastern Standard Time.

14 ATTORNEY BROOKS: I'm just --- sorry.  
15 I'm just moving that so --- make sure it's still  
16 recording and I didn't muck it up. I just wanted to not  
17 hit it with papers.

18 ATTORNEY WILKINSON: Yes, it's still  
19 recording.

20 BY ATTORNEY BROOKS:

21 Q. Let's --- Dr. Adkins, if I can ask you to find  
22 Exhibit 4 again, which is the 2017 guidelines. We are  
23 again on page 3879 where we just were. And there after  
24 the discussion that we looked at about desistance of

1 childhood gender dysphoria, the next sentence reads  
2 right after where we stopped if children had completed  
3 socially transition, the may have great difficulty in  
4 returning to the original gender role upon entering  
5 puberty. And it continues social transition is  
6 associated with the persistence of GD/gender  
7 incongruence as a child progresses into adolescence.

8 Do you see that?

9 A. Uh-huh (yes).

10 Q. At the very end of the paragraph it reads social  
11 transition in addition to GD/gender incongruence has  
12 been found to contribute to the likelihood of  
13 persistence.

14 Do you see that?

15 A. Uh-huh (yes).

16 Q. Now, what the Endocrine Society Committee,  
17 considering all the available research, says is that  
18 social transition has been found to contribute to the  
19 likelihood of persistence. Is that how you read their  
20 language here?

21 ATTORNEY BORELLI: Objection, form.

22 THE WITNESS: That's how I read it.

23 BY ATTORNEY BROOKS:

24 Q. And social transition has to do with how the

1 people around the child treat him or her, what pronouns  
2 they use, what names they use, what clothing they  
3 provide, correct, is that consistent with your  
4 understanding of social transition?

5 ATTORNEY BORELLI: Objection, form.

6 BY ATTORNEY BROOKS:

7 Q. It has to do with how society, how the people  
8 around you treat you.

9 Correct?

10 ATTORNEY BORELLI: Objection, form.

11 THE WITNESS: Yes.

12 BY ATTORNEY BROOKS:

13 Q. And therefore, what this is saying is how  
14 parents and those around the child treat that child can  
15 affect whether that child ends up identifying as  
16 transgender or identifying with a gender identity  
17 congruent with his or her biology.

18 Correct?

19 ATTORNEY BORELLI: Objection, form.

20 THE WITNESS: One more time.

21 BY ATTORNEY BROOKS:

22 Q. What this is saying is that how parents --- when  
23 it says that social transition has been found to  
24 contribute to the likelihood of persistence what that

1 tells us is how parents and others around the child  
2 treat that child can affect whether the child ends up  
3 identifying as transgender or cisgender?

4 ATTORNEY BORELLI: Objection, form.

5 THE WITNESS: That is the way that reads.

6 I would say that, you know, I don't recommend  
7 necessarily --- I recommend we follow the child and  
8 watch their gender developments.

9 BY ATTORNEY BROOKS:

10 Q. This Committee says that by assisting a child to  
11 socially transition the available science suggests that  
12 adults are contributing to the likelihood of persistence  
13 rather than desistance. That's what it says.

14 Right?

15 ATTORNEY BORELLI: Objection, form.

16 THE WITNESS: I'm sorry. I'm going to  
17 make you say it one more time, please. I apologize.  
18 I'm just getting tired.

19 BY ATTORNEY BROOKS:

20 Q. I know the feeling. This says that by assisting  
21 a child to socially transition the available science  
22 suggests that adults are, quote, contributing to the  
23 likelihood of persistence rather than desistance.

24 ATTORNEY BORELLI: Objection, form.

1                   THE WITNESS: Gosh. So I'm not sure what  
2 you say sounds right to me. That is what it says on the  
3 paper.

4 BY ATTORNEY BROOKS:

5           Q. And I will give you a chance to tell us whether  
6 you agree or disagree with it, because my understanding  
7 is that you, in contrast, believe that external  
8 influences can't affect gender identity.

9                   Correct?

10                   ATTORNEY BORELLI: Objection to form.

11 BY ATTORNEY BROOKS:

12           Q. Cannot?

13           A. So you know, all of your life influences your  
14 identity development. You can't change what it is. You  
15 can --- it can change your experience. I don't think  
16 that these children were likely to have had a different  
17 outcome.

18           Q. So your view is that gender identity can't  
19 change and therefore any child whose gender identity  
20 appears to change must have been mistaken at some state  
21 of their understanding.

22                   Correct?

23                   ATTORNEY BORELLI: Objection, form.

24                   THE WITNESS: So their understanding of

1 their gender identity can develop over time.

2 BY ATTORNEY BROOKS:

3 Q. Do you agree or disagree with this statement in  
4 the Endocrine Society Guidelines that social transition  
5 has been found to contribute to the likelihood of  
6 persistence?

7 ATTORNEY BORELLI: Objection, form.

8 THE WITNESS: You know, they --- I  
9 answered that question.

10 BY ATTORNEY BROOKS:

11 Q. I'm sorry. I perhaps didn't correctly  
12 understand. So if you would answer it again, that would  
13 be helpful.

14 A. So kids who --- now I've forgotten the question.

15 Q. This one is a simple one. Do you agree or  
16 disagree with the statement from this committee, the  
17 Endocrine Society, that social transition has been found  
18 to contribute to the likelihood of persistence?

19 ATTORNEY BORELLI: Objection, form.

20 THE WITNESS: You know, this --- it's  
21 hard for me to agree with that. As a pediatrician I  
22 know that people --- prepubertal children, young  
23 children, explore their gender identity in a lot of  
24 different ways over time, and so I don't know that I can

1 agree necessarily that the way that it's written ---  
2 that I necessarily agree with the specific terms.

3 BY ATTORNEY BROOKS:

4 Q. I don't mean to suggest to you by word or tone  
5 that this document was handed down on Mount Sinai. I  
6 understand that there's room for scientists to disagree.  
7 I am just trying to get clear on your opinion. I'm  
8 pretty sure this document was not handed down on Mount  
9 Sinai.

10 Let me find a copy of your rebuttal report, which  
11 I believe was marked as Exhibit 3. Exhibit 3, the  
12 rebuttal report. Let me ask you to turn to page 11 of  
13 your rebuttal report. We can hand you another copy if  
14 need be. We should have one more.

15 A. I think this is it.

16 Q. No, we're looking for your rebuttal report.  
17 It's going to be a typewritten kind of something or  
18 other.

19 A. Like this, right?

20 Q. Exhibit 3.

21 A. I'm sorry. No that's not --- sugar.

22 Q. I'm just going to hand you another one.

23 A. Okay. Thank you.

24 Q. No hard feelings.

1 A. I --- I know it's here because I -- there's so  
2 many papers. You warned me there would be so many  
3 papers.

4 Q. I did. I tried to warn you.

5 Let me ask you to turn to paragraph 11 of your  
6 rebuttal report.

7 A. Oh, okay. Yeah.

8 Q. Page five.

9 A. I'm sorry, the number --- one of the numbers  
10 skipped and it was just a labeling of a reference, so  
11 again 11.

12 Q. Yes. The second sentence there you wrote ---  
13 and this is of course a recent submission, adolescents  
14 with persistent gender dysphoria after reaching Tanner  
15 stage two almost always persist in their gender identity  
16 in the long term. Do you see that language?

17 A. I do.

18 Q. So --- and the basis that you cite for that  
19 rather specific factual proposition is an article or  
20 actually a chapter by Turban, DeVries and Zucker.

21 Correct? I'm just looking at footnote three.

22 A. Yes.

23 Q. So Tanner stage two, as I understand --- or we  
24 can look at the Endocrine Society note, but this is ---



1 Tanner stage two is when children first begin to exhibit  
2 physically recognizable changes in puberty.

3 Right?

4 ATTORNEY BORELLI: Objection, form.

5 THE WITNESS: Yes.

6 BY ATTORNEY BROOKS:

7 Q. So Tanner stage one, there's nothing observable.  
8 And the beginning of Tanner stage two is the first  
9 observable changes?

10 A. Yes.

11 ATTORNEY BORELLI: Objection, form.

12 BY ATTORNEY BROOKS:

13 Q. And I think you testified, but if you could just  
14 remind us kind of the timespan that that tends to begin  
15 for boys and girls.

16 ATTORNEY BORELLI: Objection, form.

17 THE WITNESS: Tanner two. Tanner two,  
18 for those assigned female at birth can range in the  
19 normal, typical development between the ages of 8 and  
20 12. It does fall outside of that at times and is  
21 considered early and could be a marker of a problem as  
22 well as delayed could be a marker of a problem.

23 Q. For boys?

24 A. For those assigned male at birth, so usually

1 between 9 and 14. Anything earlier or later again might  
2 trigger some questions that something is going on.

3 Q. So age eight is generally girls turn eight in  
4 second or third grade? Third grade roughly?

5 ATTORNEY BORELLI: Objection, form.

6 THE WITNESS: That would be --- you know,  
7 it varies because early starters, late starters. But  
8 ---.

9 BY ATTORNEY BROOKS:

10 Q. And so for nine, for boys would be fourth grade?

11 ATTORNEY BORELLI: Objection to form.

12 THE WITNESS: That would be the typical.

13 BY ATTORNEY BROOKS:

14 Q. So we're talking grade school kids here, not  
15 even the end of grade school?

16 ATTORNEY BORELLI: Objection, form.

17 BY ATTORNEY BROOKS:

18 Q. And if the type of changes that mark the  
19 beginning of Tanner stage two are generally at least to  
20 the layman's eye not visible on a clothed child.

21 Correct?

22 ATTORNEY BORELLI: Objection, form.

23 BY ATTORNEY BROOKS:

24 Q. That mark the beginning Tanner stage two?

1                   ATTORNEY BORELLI: Objection, form.

2                   THE WITNESS: I would say that some  
3 assigned females at birth, especially if they're lean,  
4 you can see their breast development.

5 BY ATTORNEY BROOKS:

6           Q. Just a breast bud. But in general, when we  
7 speak of adolescence, we don't --- in common parlance we  
8 do not include third and fourth graders, do we?

9                   ATTORNEY BORELLI: Objection, form.

10                  THE WITNESS: Well, the definition of  
11 adolescence is the time during puberty, so they should  
12 be included.

13 BY ATTORNEY BROOKS:

14           Q. In your experience as to how people use the  
15 term, third and fourth graders included in adolescence?

16                  ATTORNEY BORELLI: Objection, form.

17                  THE WITNESS: It varies with regard to  
18 the context. Within my medical practice that's the way  
19 we use the term.

20 BY ATTORNEY BROOKS:

21           Q. At any rate, we're talking about grade school  
22 ages, not junior high or middle school ages. What is  
23 your basis for saying that those children who persist up  
24 to the beginning of Tanner stage two almost always

1 persist transgender identity?

2 ATTORNEY BORELLI: Objection. Objection,  
3 form.

4 THE WITNESS: I don't know which  
5 reference it is, but I can state that in my practice  
6 that's what I have seen.

7 BY ATTORNEY BROOKS:

8 Q. Let me show you the only reference you did cite  
9 for that, which I will mark as Exhibit 20, the article  
10 by Turban, DeVries and Zucker cited in footnote 20 of  
11 your rebuttal report. I'm sorry. Don't know why I said  
12 20. I'm going to hand the witness that article now.

13 A. Thank you.

14 ---

15 (Whereupon, Adkins Exhibit 20, Turban,  
16 DeVries and Zucker Article, was marked  
17 for identification.)

18 ---

19 COURT REPORTER: Excuse me, but you're  
20 mumbling and I can't understand everything that you're  
21 saying.

22 ATTORNEY BROOKS: At the moment I'm just  
23 shuffling papers and handing out documents. And I will  
24 speak up now and ask a question. Sorry about that.

1                    COURT REPORTER: Well, we are on the  
2 record and I need to be able to hear every single word  
3 that you guys are saying.

4                    ATTORNEY BROOKS: We'll do the best we  
5 can.

6                    COURT REPORTER: It's hard for me over  
7 here.

8 BY ATTORNEY BROOKS:

9            Q.        Is this, in fact, the article that you  
10 referenced in your rebuttal report, Dr. Adkins, or the  
11 chapter I should say?

12           A.        Yeah. I mean, I'd have to take a minute to  
13 review it.

14                    VIDEOGRAPHER: Counsel, which tab number  
15 is this?

16                    THE WITNESS: I'm sorry, you broke up.

17                    VIDEOGRAPHER: Which tab number is this  
18 document?

19                    ATTORNEY BROOKS: Tab 39. I apologize.

20                    VIDEOGRAPHER: Thank you.

21                    THE WITNESS: It is labeled as that.

22 BY ATTORNEY BROOKS:

23            Q.        Well, do you recall recently reading this  
24 article since it was cited in this document submitted

1 just last week?

2 A. I have reviewed this document. I don't remember  
3 when though.

4 Q. Okay.

5 And in here --- let's look at page 638. And  
6 there at the top of --- near the top of the first column  
7 on 638 is a discussion of follow-up studies of  
8 persisters and desisters. Do you see that discussion?

9 A. Yes.

10 Q. And it says --- four lines, five lines down it  
11 begins, quote, Restoray and Skeemsma have provided the  
12 most recent study of 10 follow up studies in which the  
13 percentage of participants classified as persisters  
14 ranged from two percent to 39 percent collapsed across  
15 natal boys and girls, closed quote. Do you see that?

16 A. Yeah.

17 Q. And further down under the heading persistence  
18 of gender dysphoria from adolescence to adulthood is a  
19 very short paragraph that reads in its entirety in  
20 contrast low rates of persistence from childhood into  
21 adolescence, it appears that the vast majority of  
22 transgender adolescents persist in their transgender  
23 identity, closed quote.

24 Do you see is that?

1 A. Yes.

2 Q. And was that the language that you had in mind  
3 when you cited this reference in footnote three of your  
4 rebuttal report?

5 A. I would have to look all the way through the  
6 article. It's consistent.

7 Q. And the language that I directed you to at the  
8 top summarizes studies that show --- showing of  
9 persistence of gender dysphoria among childhood  
10 dysphorics of only two percent to 39 percent.

11 Right?

12 ATTORNEY BORELLI: Objection, form.

13 THE WITNESS: Those are two different  
14 populations.

15 BY ATTORNEY BROOKS:

16 Q. They are. And I'm asking you now again about  
17 what it says at the top?

18 A. Please repeat your question.

19 Q. The discussion at the top summarizes studies  
20 showing persistent childhood dysphoria of only between  
21 two percent and 39 percent, depending on the study?

22 ATTORNEY BORELLI: Objection to form.

23 THE WITNESS: I see that.

24 BY ATTORNEY BROOKS:

1 Q. And that is that the large majority consisted at  
2 some stage before adulthood.

3 Correct?

4 ATTORNEY BORELLI: Objection, form.

5 THE WITNESS: More than half per this.

6 BY ATTORNEY BROOKS:

7 Q. And nothing here tells us about exactly what  
8 stage of adolescence before adulthood they desisted,  
9 does it?

10 ATTORNEY BORELLI: Objection, form.

11 THE WITNESS: In this literature  
12 adolescence is puberty. It would have to be at least  
13 Tanner two.

14 BY ATTORNEY BROOKS:

15 Q. At least. Now, my question was nothing in the  
16 discussion up towards the top of the column about these  
17 persistence and desistance studies tells us at what  
18 stage of puberty the desisters desisted, does it?

19 ATTORNEY BORELLI: Objection, form.

20 THE WITNESS: I would have to look at the  
21 whole study. Just in that line that detail is not  
22 listed.

23 BY ATTORNEY BROOKS:

24 Q. And similarly, looking at the discussion under



1 the heading persistence of gender dysphoria from  
2 adolescence to adulthood not being in that sentence  
3 tells us what stage of adolescence, whether it is Tanner  
4 stage two or three or four is being referred to when it  
5 says the majority of adolescents persist?

6 ATTORNEY BORELLI: Objection, form.

7 THE WITNESS: It's not written right  
8 there, no.

9 BY ATTORNEY BROOKS:

10 Q. Please identify for me all studies you are aware  
11 of that show that those who desist from childhood gender  
12 dysphoria do so by no later than beginning of Tanner  
13 stage two.

14 ATTORNEY BORELLI: Objection, form.

15 THE WITNESS: I am not going to be able  
16 to remember those off the top of my head.

17 BY ATTORNEY BROOKS:

18 Q. Can you remember a single one?

19 ATTORNEY BORELLI: Objection, form.

20 THE WITNESS: I would have to have you  
21 repeat the question, but I doubt it.

22 BY ATTORNEY BROOKS:

23 Q. I will repeat it. Identify all studies you're  
24 aware of that show that those who desist from childhood

1 gender dysphoria do so no later than the time they first  
2 reach Tanner stage two?

3 ATTORNEY BORELLI: Objection, form.

4 THE WITNESS: I don't think that I recall  
5 a study that's been modeled that way.

6 BY ATTORNEY BROOKS:

7 Q. Can you tell me --- identify for me any study  
8 that has examined whether what is called in the  
9 literature watchful waiting combined with psychotherapy  
10 results in worse outcomes for children as compared to  
11 administration of puberty blockers and social outcomes?

12 ATTORNEY BORELLI: Objection, form.

13 THE WITNESS: So the experience is that  
14 some patients have dysphoria that is significant enough  
15 once they are in puberty to be dangerous to their life.  
16 I worry about those patients. We allow them a pause  
17 with puberty blockers to continue to figure out their  
18 gender identity. I got lost in my answer, I apologize.

19 BY ATTORNEY BROOKS:

20 Q. Well, Dr. Adkins, I didn't ask what you were  
21 worried about. I asked can you identify any study that  
22 examines whether watchful waiting for children combined  
23 with psychotherapy results in better or worse outcomes  
24 on average than administering puberty blockers and

1 social transition?

2 ATTORNEY BORELLI: Objection, form.

3 THE WITNESS: You know, I can't remember  
4 the exact study. We have studies that show that if you  
5 are not helping the patients relieve their gender  
6 dysphoria and psychotherapy has not been shown to do  
7 that, then we would be, you know, at an unethical point  
8 to do that study because it would increase risk of death  
9 in those patients for us to watch and wait.

10 BY ATTORNEY BROOKS:

11 Q. So your answer is at no time since the inception  
12 of this field, that is therapy for gender dysphoria, are  
13 you aware of any study comparing outcomes for gender  
14 dysphoric children of on the one hand watchful waiting  
15 accompanied by psychotherapy and on the other hand  
16 puberty blockers and social transitioning?

17 ATTORNEY BORELLI: Objection, form.

18 THE WITNESS: There's a long history of  
19 individuals who were left untreated or treated with  
20 psychotherapy who died in hospitals or not in hospitals  
21 because they were only given those therapies which were  
22 the only ones available at the time.

23 BY ATTORNEY BROOKS:

24 Q. Dr. Adkins, you are also aware, are you not,

1 that there's a long history of individuals who have  
2 transitioned both socially and hormonally who have  
3 committed suicide?

4 ATTORNEY BORELLI: Objection to form.

5 BY ATTORNEY BROOKS:

6 Q. That's well documented in the literature, is it  
7 not?

8 ATTORNEY BORELLI: Objection, form.

9 THE WITNESS: There are individuals who  
10 still struggle with depression and anxiety to the point  
11 that they are --- do commit suicide and they have not  
12 necessarily the reason being related to their gender  
13 dysphoria. Could be. Hard to know.

14 BY ATTORNEY BROOKS:

15 Q. In fact, Skeemsma and colleagues at the  
16 respected institute in Amsterdam, DeVry University, have  
17 documented very high rates of successful completed  
18 suicide among transgender adults, have they not?

19 ATTORNEY BORELLI: Objection, form.

20 THE WITNESS: I would have to see the  
21 study.

22 BY ATTORNEY BROOKS:

23 Q. You are not aware of that information?

24 A. I have not seen that study. I have read the

1 literature. I don't recall a study saying there was a  
2 high or why. I would need a number.

3 BY ATTORNEY BROOKS:

4 Q. You read Dr. Levine's report?

5 A. Yeah, it was --- yes.

6 Q. And do you recall that he cites multiple  
7 studies, including studies from DeVry University team  
8 documenting high rates of successful completed suicide,  
9 not studies, he's done, that clinic has done documented  
10 high rates of successful suicide among transgender  
11 adults?

12 ATTORNEY BORELLI: Objection, form.

13 THE WITNESS: I would need a number. I'm  
14 not going to classify something as high just because ---  
15 I would need a number.

16 BY ATTORNEY BROOKS:

17 Q. Have you thought that it was incumbent upon you  
18 somebody assisting young people to transition and  
19 prescribing hormones to thoroughly investigation and  
20 question suicidality among transitioned transgender  
21 individuals?

22 ATTORNEY BORELLI: Objection, form.

23 THE WITNESS: Again, yes. I read those  
24 when I can. I am not good with recalling names in

1 specific reports. I am aware that that is an issue with  
2 some people who have transitioned fully.

3 BY ATTORNEY BROOKS:

4 Q. Do you believe that social transition is an  
5 important part of medical care for transgender  
6 individuals?

7 ATTORNEY BORELLI: Objection, form.

8 THE WITNESS: Yes.

9 BY ATTORNEY BROOKS:

10 Q. And do you also consider puberty blockers to be  
11 part of treatment for children with gender dysphoria?

12 ATTORNEY BORELLI: Objection to the form.

13 THE WITNESS: I have seen results from a  
14 recent study that said that there was a decrease in  
15 dysphoria. I think it was anxiety and depression. I  
16 would have to double check the article, with puberty  
17 blockers. Our goal with puberty blockers is to pause  
18 and allow people to understand their identity and figure  
19 out what is going on with that understanding and what is  
20 the best care for that patient is.

21 BY ATTORNEY BROOKS:

22 Q. Is the point of administering puberty blockers  
23 to children who are experiencing gender dysphoria to  
24 prevent puberty from occurring at the time that it

1 naturally would occur in that child?

2 ATTORNEY BORELLI: Objection, form.

3 THE WITNESS: In patients --- in patients  
4 who are having early puberty it is a different  
5 mechanism. For people with gender dysphoria where you  
6 are trying to pause it and we keep it within the realm  
7 of normal pubertal development.

8 BY ATTORNEY BROOKS:

9 Q. For individuals suffering --- children suffering  
10 from gender dysphoria the precise point of administering  
11 puberty blockers is to prevent puberty from occurring in  
12 that child at the time it would otherwise naturally  
13 occur.

14 Correct?

15 ATTORNEY BORELLI: Objection, form.

16 THE WITNESS: It would --- our pausing  
17 the puberty and keeping it within the normal range of  
18 pubertal development.

19 BY ATTORNEY BROOKS:

20 Q. Dr. Adkins, the purpose of administering  
21 pubertal blockers to a particular child is to prevent it  
22 from happening when it would otherwise happen naturally  
23 in that child.

24 Correct?

1 ATTORNEY BORELLI: Objection, form.

2 BY ATTORNEY BROOKS:

3 Q. There is no other purpose?

4 ATTORNEY BORELLI: Objection, form.

5 THE WITNESS: I'm sorry. I have to ask  
6 --- you used some pronounced in there that were not real  
7 clear. If you don't mind repeating the question.

8 BY ATTORNEY BROOKS:

9 Q. The purpose of administering puberty blockers to  
10 a child suffering from gender dysphoria is to prevent  
11 puberty from happening in that child at the time it  
12 would otherwise naturally occur in that child absent the  
13 blockade?

14 ATTORNEY BORELLI: Objection.

15 THE WITNESS: We are pausing their  
16 puberty once it starts, putting a pause.

17 BY ATTORNEY BROOKS:

18 Q. I get to ask the questions. That means you  
19 wanted to prevent puberty from happening when it would  
20 naturally happen for that child apart from the  
21 medication?

22 ATTORNEY BORELLI: Objection, form.

23 THE WITNESS: Yes.

24 BY ATTORNEY BROOKS:



1 Q. Thank you.

2 You regularly tell parents that the  
3 administration of puberty blockers for that purpose is,  
4 quote, safe?

5 Correct?

6 ATTORNEY BORELLI: Objection, form.

7 THE WITNESS: I go through very specific  
8 list of side effects and effects with my patients with  
9 that medication.

10 BY ATTORNEY BROOKS:

11 Q. You regularly tell parents using the word that  
12 puberty blockers are, quote, safe, do you not?

13 ATTORNEY BORELLI: Objection, form.

14 THE WITNESS: I am telling my patients  
15 the risks and benefits. I am telling them I feel  
16 comfortable using it.

17 BY ATTORNEY BROOKS:

18 Q. Let's find your report, which is Exhibit 1 ---  
19 no --- yes, Exhibit 1. If you can find your report.  
20 Apologize. Too much paper. Too long a day.

21 Dr. Adkins, do you or do you not tell parents  
22 that puberty blockers are safe?

23 ATTORNEY BORELLI: Objection, form.

24 THE WITNESS: Again, I review the effects

1 and side effects and my general experience and the  
2 publications that are available. Goodness gracious.  
3 Boy, that lunch is getting me.

4 I explain to my patients the effects and  
5 side effects and I talk with them about whether --- my  
6 experience has been I have had very few patients  
7 experience a problem with the medication.

8 BY ATTORNEY BROOKS:

9 Q. And if you are unwilling to sit here today and  
10 admit that you tell parents that puberty blockers are  
11 safe then why have you stated in your expert report to  
12 the court that treatment, including puberty blockers,  
13 are safe?

14 ATTORNEY BORELLI: Objection, form.

15 THE WITNESSS: Every patient is  
16 individual. I have to make an individual assessment for  
17 each patient. I will say it's safe for the patients  
18 that that applies to.

19 BY ATTORNEY BROOKS:

20 Q. Which patients does that apply to?

21 A. Most of the patients don't have a  
22 contraindication to using puberty blockers.

23 Q. Is safe a term of art to you as a doctor?

24 ATTORNEY BORELLI: Objection, form.

1                   THE WITNESS: I'm not sure what you mean  
2 by the word art.

3 BY ATTORNEY BROOKS:

4       Q.       Does it have a precise meaning? To say a  
5 pharmaceutical is safe, does that have a meaning to you  
6 as a doctor?

7       A.       It has a meaning.

8       Q.       What is that?

9       A.       So in general when we're talking about safety  
10 and medicine we're talking about limiting the number of  
11 negative side effects that can cause significant issues  
12 for patients. I think that would --- I think that's  
13 what I would say.

14       Q.       Isn't it a truism you were taught in medical  
15 school that every pharmaceutical has side effects?

16                   ATTORNEY BORELLI: Objection, form.

17                   THE WITNESS: So truism is a word that  
18 --- sorry, that is unclear to me. Can you clarify?

19 BY ATTORNEY BROOKSS:

20       Q.       Weren't you taught in medical school that every  
21 pharmaceutical has side effects?

22                   ATTORNEY BORELLI: Object to form.

23                   THE WITNESS: Yes.

24 BY ATTORNEY BROOKS:

1 Q. And do you agree or disagree that a flat  
2 assertion that any pharmaceutical is safe is not  
3 consistent with accurate medical terminology?

4 ATTORNEY BORELLI: Objection, form.

5 THE WITNESS: I would say that I work  
6 with what the information is available to me about  
7 safety profile. I apply that to each patient  
8 individually. Sometimes I feel safer using it in one  
9 patient versus another patient. Every drug is  
10 different, every side effect profile is different, every  
11 patient is different.

12 BY ATTORNEY BROOKS:

13 Q. Why then did you flatly assert to the court that  
14 treatment for transgender youth when you were discussing  
15 puberty blockers and hormone therapies is, quote, safe?

16 ATTORNEY BORELLI: Objection to form.

17 THE WITNESS: In general I have not  
18 experienced nor have I seen published experiences of  
19 issues with using these medications that causes a  
20 significant problem for my patients.

21 BY ATTORNEY BROOKS:

22 Q. You regularly tell parents what you have said  
23 several times today, that puberty blockers act merely as  
24 a pause and are fully reversible, do you not?

1                    ATTORNEY BORELLI: Objection, form.

2                    THE WITNESS: I do.

3                    BY ATTORNEY BROOKS:

4                    Q. And you are aware, are you not, that the  
5                    Endocrine Society guidelines advise that before  
6                    approving puberty blockers a clinician should discuss  
7                    risks to fertility and the availability, the possibility  
8                    of fertility preservation.

9                    Correct?

10                   ATTORNEY BORELLI: Objection, form.

11                   THE WITNESS: I'm not sure that is in the  
12                   Endocrine Society guidelines with puberty blockers. It  
13                   may be. That it is no part of the gender affirming  
14                   hormone recommendation.

15                   BY ATTORNEY BROOKS:

16                   Q. Let's look at page 3879 in the guidelines,  
17                   Exhibit 4.

18                   A. What exhibit again, 4?

19                   Q. Exhibit 4. And I'm going to call your attention  
20                   to 3879. And column two is guideline 1.5 where it says,  
21                   quote, we recommend the clinicians inform and counsel  
22                   all individuals seeking gender affirming medical  
23                   treatment regarding options for fertility preservation  
24                   prior to initiating puberty suppression in adolescence.

1 Do you see that language?

2 ATTORNEY BORELLI: Objection, form.

3 THE WITNESS: I do.

4 BY ATTORNEY BROOKS:

5 Q. And what is your understanding as to why the  
6 Endocrine Society advises that it's important to advise  
7 about fertility preservation prior to initiating puberty  
8 suppression if puberty suppression is nearly nothing but  
9 a pause?

10 ATTORNEY BORELLI: Objection, form.

11 THE WITNESS: Well, the --- you know,  
12 puberty pausing is in my experience and in the reported  
13 data always reversible. I have not ever had a patient  
14 who didn't resume their normal puberty when they came  
15 off and were on no other treatment of a puberty  
16 blockade. I would think that this is being very careful  
17 about young individuals getting puberty blockers.  
18 Again, I haven't seen any reports. In fact, it is used  
19 to preserve fertility in cancer patients.

20 BY ATTORNEY BROOKS:

21 Q. Do you, in fact, counsel all parents and  
22 children about fertility preservation options before  
23 administering puberty blockers?

24 ATTORNEY BORELLI: Objection, form.

1                   THE WITNESS: I do.

2           BY ATTORNEY BROOKS:

3           Q.       And do you have a view as to whether for  
4 instance a 9 year old can even begin to understand  
5 puberty, sexual development and the possibility of  
6 becoming a parent so as to provide meaningfully informed  
7 consent?

8                   ATTORNEY BORELLI: Objection, form.

9                   THE WITNESS: So those individuals also  
10 have their parents who are with them to learn about  
11 these thing and weigh those things. The patient is not  
12 there in isolation. They get an option at the time  
13 where we would stop puberty blockers or any time that  
14 they are on to make a change in that. It is completely  
15 reversible.

16           BY ATTORNEY BROOKS:

17           Q.       You have testified at the beginning of the day  
18 you had children of your own. Both as a professional  
19 and as a mother do you have a view as to whether a 9  
20 year old can sufficiently understand puberty, sexual  
21 development and the possibility of becoming a parent to  
22 enable them to provide meaningfully informed consent?

23                   ATTORNEY BORELLI: Objection, form.

24                   THE WITNESS: So in young kids we use

1 these --- in five year olds --- I have treated a five  
2 year old this week with this medication for early  
3 puberty. I trust, based on the data that is available  
4 to me over the last 30 years using this medication to  
5 pause puberty for central precocious puberty that it is  
6 a safe medication and that the patient will be fertile.  
7 Can't say 100 percent because who knows what else is  
8 going on in each individual patient that may cause them  
9 to have an infertility issue.

10 BY ATTORNEY BROOKS:

11 Q. Dr. Adkins, puberty blocking drugs have gone  
12 through phase one, phase two, phase three clinical  
13 trials submitted to the FDA, reviewed. They've been  
14 approved for the indication of precocious puberty.

15 Correct?

16 ATTORNEY BORELLI: Objection, form.

17 THE WITNESS: Yes.

18 BY ATTORNEY BROOKS:

19 Q. None of that has been done for an indication of  
20 gender dysphoria to your knowledge.

21 Correct?

22 ATTORNEY BORELLI: Objection, form.

23 THE WITNESS: I use lots of medications  
24 that aren't FDA approved for the particular indications.



1 Many drugs in pediatrics are not ever tested in  
2 children. It's just within the last few years that they  
3 have made a recommendation that that happen for a  
4 medication. So there are many drugs that haven't been  
5 FDA approved that are used in pediatrics based on  
6 information for patients in a different indication or  
7 adulthood.

8 Q. Puberty blockers have been tested through phase  
9 one, phase two, phase three clinical trials for the  
10 purpose of postponing precocious puberty until the  
11 normal time period for puberty.

12 Correct? That's what has been tested?

13 ATTORNEY BORELLI: Objection to form.

14 THE WITNESS: Yes.

15 BY ATTORNEY BROOKS:

16 Q. And no such tests have been done or submitted to  
17 the FDA ---?

18 COURT REPORTER: Can you repeat what you  
19 said because I'm not sure that last question fully came  
20 through.

21 ATTORNEY BROOKS: The last question was  
22 --- and I --- I admit that my voice, as the witness's,  
23 is dropping. We're trying here. And I --- Dave's  
24 resting his voice for a few questions towards the end of

1 the day. I'll be glad.

2 BY ATTORNEY BROOKS:

3 Q. Just to clarify, and I don't mean to harass you,  
4 but we've been asked to repeat it. Puberty blockers  
5 have been put through phase one, phase two, phase three  
6 clinical trials submitted to the FDA for the purpose of  
7 delaying precocious puberty in children until the normal  
8 time for puberty. And your answer was?

9 ATTORNEY BORELLI: Objection, form.

10 THE WITNESS: Yes.

11 BY ATTORNEY BROOKS:

12 Q. And they have not been tested for safety, for  
13 efficacy in phase one, phase two or phase three clinical  
14 trials for the purpose of delaying puberty from its  
15 naturally occurring time in children who do not suffer  
16 from precocious puberty.

17 Correct?

18 ATTORNEY BORELLI: Objection, form.

19 THE WITNESS: We use data that wasn't  
20 presented to the FDA to --- to look at this to see if it  
21 is safe. It's also been approved by the FDA to be used  
22 in adults. Also been used and approved for fertility  
23 preservation. Has lots of approvals that have verified  
24 its safety over time.

1 BY ATTORNEY BROOKS:

2 Q. Well, a moment ago when I asked you if you tell  
3 people they were safe you were not quite willing to say  
4 that. Do you want to revise that testimony?

5 ATTORNEY BORELLI: Objection, form.

6 THE WITNESS: I believe at the end of  
7 that I was saying to you that every patient is  
8 different. There are some that have risks. When I feel  
9 comfortable that my patient in front of me doesn't have  
10 those risks based on the medical literature I feel that  
11 they're safe to use. I have my experience. I have seen  
12 the literature. I feel --- yes.

13 BY ATTORNEY BROOKS:

14 Q. The law that's being challenged in this lawsuit  
15 doesn't restrict the use of puberty blockers so far as  
16 you understand, does it?

17 ATTORNEY BORELLI: Objection, form.

18 THE WITNESS: I don't recall that being  
19 part of the law.

20 BY ATTORNEY BROOKS:

21 Q. It doesn't exclude anyone for participation on  
22 any team based on use of puberty blockers, does it?

23 ATTORNEY BORELLI: Objection, form.

24 THE WITNESS: Not that I recall.

1 BY ATTORNEY BROOKS:

2 Q. And you have previously testified that in your  
3 view, the law is unreasonable if it excludes, prevents  
4 any individuals with a transgender identity from playing  
5 in the category that corresponds to their gender  
6 identity.

7 Correct?

8 ATTORNEY BORELLI: Objection, form.

9 THE WITNESS: That sounds accurate.

10 BY ATTORNEY BROOKS:

11 Q. I don't want to mischaracterize your opinion.

12 Okay.

13 So what is the relevance to your opinion that  
14 all the discussions in your report about puberty  
15 blockers?

16 ATTORNEY BORELLI: Objection, form.

17 THE WITNESS: Sorry. I need some water.

18 And then, if you don't mind, while I'm doing that, could  
19 you please re-read the question. Sorry.

20 BY ATTORNEY BROOKS:

21 Q. Yes. I'll even wait until you've had your  
22 drink.

23 A. Sorry.

24 Q. I'm hitting the bottom myself.

1 A. It's pollen season. It's bad.

2 Q. It's just getting going.

3 A. I know.

4 Q. Given what we just walked through, ---

5 A. Yes.

6 Q. --- what is the relevance of all the discussion  
7 about puberty blockers in your expert report and  
8 rebuttal report to the opinions you're offering in this  
9 case?

10 ATTORNEY BORELLI: Objection, form.

11 THE WITNESS: So my part of this is to  
12 talk about what care is for people who are transgender  
13 and what medications they might be on and what  
14 treatments might be ideal for them.

15 BY ATTORNEY BROOKS:

16 Q. You've talked about how each --- you want to  
17 treat each patient differently. You want to be very  
18 careful about their treatment choices, their parents'  
19 treatment choices, that they understand all of the  
20 considerations.

21 Would it cause you concern if West Virginia put  
22 into place a law that created incentives or pressures on  
23 parents and children to make decisions about puberty  
24 blockers at an early stage?

1                    ATTORNEY BORELLI:    Objection, form.

2                    THE WITNESS:    I would not think it would  
3    be appropriate to pressure anyone.

4    BY ATTORNEY BROOKS:

5            Q.        So for instance, a law that said if you take  
6    puberty blockers then you can play on the girls team and  
7    if you don't you can't, that would cause you concern as  
8    a doctor, would it not?

9                    ATTORNEY BORELLI:    Objection, form.

10                  THE WITNESS:    Ideally, they would be able  
11    to whether or not they have the puberty blockers or not  
12    play on the team that matches their gender identity.

13    BY ATTORNEY BROOKS:

14            Q.        And ideally and from your perspective and in  
15    fact if the law set up an incentive that says you can  
16    only play on the girls' team if you take puberty  
17    blockers, and if you don't, you're foreclosed from female  
18    athletics, that would cause you concern as a doctor as  
19    biasing the patient's and parents' decisions, would it  
20    not?

21                  ATTORNEY BORELLI:    Objection, form.

22    BY ATTORNEY BROOKS:

23            Q.        That's not a law you would want to see on the  
24    books?

1                    ATTORNEY BORELLI: Objection, form.

2                    THE WITNESS: I don't think I would want  
3 to see that on the books. Haven't thought through every  
4 detail of that but I don't think so.

5 BY ATTORNEY BROOKS:

6            Q.        You are aware, are you not, that all the  
7 recommendations in the 2017 guidelines, also in the 2009  
8 guidelines from the Endocrine Society about the  
9 administration of puberty blockers is according to the  
10 committee that prepares those recommendation based on  
11 either low quality or very low quality evidence.

12                    Right?

13            A.        You know, all recommendation put together are  
14 graded with evidence, and it's in the report --- we use  
15 them --- not in the report, in the guidelines. And we  
16 use lots of guidelines that have low quality to help  
17 guide our care.

18            Q.        Low quality evidence means that you, as a  
19 scientist, you as a doctor, can't be very confident that  
20 the recommendation will result in beneficial results.  
21 That is kind of the meaning of low quality evidence.

22                    Right?

23                    ATTORNEY BORELLI: Objection to form.

24                    THE WITNESS: I would suggest it gives us

1 a place to start and we need to be very mindful when  
2 using that information as to how we apply it.

3 ATTORNEY BORELLI:

4 Why don't we go ahead and take another  
5 break?

6 ATTORNEY BROOKS: Let me just ask the  
7 court reporter how many --- how much more time in the  
8 seven o'clock hours.

9 COURT REPORTER: We're at six hours and  
10 six minutes, so 54 minutes.

11 ATTORNEY BROOKS: Okay. We'll take that  
12 break. Absolutely.

13 ---

14 (WHEREUPON, A PAUSE IN THE RECORD WAS HELD.)

15 ---

16 ATTORNEY BROOKS:

17 All right. We will resume.

18 BY ATTORNEY BROOKS:

19 Q. Dr. Adkins, once again I will direct you to the  
20 Endocrine Society guidelines, Exhibit 4, and ask you to  
21 turn with me to page 3874 and column two --- column one,  
22 I'm sorry 3874.

23 A. Column ---?

24 Q. Column one. And towards the bottom, penultimate



1 paragraph begins in the future we need. Do you see  
2 that?

3 A. I do.

4 Q. And it says in the future --- this is in the  
5 preliminary section. Before the specific  
6 recommendations it says, quote, in the future we need  
7 more rigorous evaluations of the effectiveness and  
8 safety of endocrine and surgical protocols. And it goes  
9 on then to say specifically endocrine protocol ---  
10 specifically endocrine treatment protocols for GD/gender  
11 incongruence should include the careful assessment of  
12 the following. And it lists a number of things, the  
13 effective prolonged delay of puberty in adolescence on  
14 bone health, gonadal function and the brain, including  
15 effects on cognitive, emotional --- emotional, social  
16 and sexual development.

17 Have I, with various corrections, read that  
18 correctly?

19 A. Yes.

20 Q. So as of 2017, in the opinion of the committee  
21 that put together these guidelines ---.

22 COURT REPORTER: Excuse me. I don't know  
23 if you're speaking, but I lost you at cognitive.

24 ATTORNEY BROOKS: I'm sorry?

1                    COURT REPORTER: I lost you at cognitive  
2 and then I didn't hear anything for like 20 seconds. So  
3 I wasn't sure if you were still talking since I can't  
4 see you.

5                    ATTORNEY BROOKS: Of course. And I was.  
6 So, golly.

7                    COURT REPORTER: Thank you.

8 BY ATTORNEY BROOKS:

9            Q.        So I'm going to pick up that question again.

10                   In the paragraph that we're looking at in  
11 column one of page 3874 the committee writes that things  
12 that need to be better studied include, quote, the  
13 effects of prolonged delay of puberty in adolescence on  
14 bone health, gonadal function and the brain, including  
15 effects on cognitive, emotional, social and sexual  
16 development, closed quote.

17                   Dr. Adkins, is it your understanding that the  
18 committee here is saying that there's not yet adequate  
19 scientific evaluation of the impact of puberty blockers  
20 on the brain?

21                   ATTORNEY BORELLI: Objection, form.

22                   THE WITNESS: So you know, the  
23 recommendation by the same group is that in some  
24 patients this is the approach that --- that is used.

1 Certainly we all welcome more research. We all want to  
2 know if anything is different from the information that  
3 we have as mentioned before for use of this medication  
4 in other areas where we're not seeing any effect on  
5 these things.

6 BY ATTORNEY BROOKS:

7 Q. Is it consistent with your understanding as a  
8 doctor that the development of the brain in turn affects  
9 cognitive, emotional, social and sexual development?

10 ATTORNEY BORELLI: Objection, form.

11 THE WITNESS: The brain has effects in  
12 all those areas.

13 BY ATTORNEY BROOKS:

14 Q. To your knowledge, it has effects that change  
15 across the course of puberty in all those areas.

16 Correct?

17 ATTORNEY BORELLI: Objection, form.

18 THE WITNESS: Yes, they're all  
19 interrelated and they're occurring all at the same time.

20 ATTORNEY BROOKS: Let me mark as Exhibit  
21 a document that is titled Teenage Brain: A work in  
22 Progress, which is an information sheet that is  
23 attributes itself to the National Institute of Mental  
24 Health, which I believe we discussed earlier. Tab 32.

1 Yes, thank you. I'm sorry, I believe I said it, Exhibit  
2 21.

3 ---  
4 (Whereupon, Adkins Exhibit 21, NIMH  
5 Information Sheet, was marked for  
6 identification.)

7 ---

8 BY ATTORNEY BROOKS:

9 Q. So I would like to talk for a moment about the  
10 impact of puberty and therefore puberty blockade on  
11 brain development. On the second page at the more  
12 information, we see contact information at the National  
13 Institute of Mental Health. And I don't want to  
14 misrepresent, did you earlier testify that is a well  
15 known and respected source of information about mental  
16 health therapies?

17 ATTORNEY BORELLI: Objection, form.

18 THE WITNESS: Yes.

19 BY ATTORNEY BROOKS:

20 Q. And let me take you to page one. And I'm simply  
21 using this to pin down a few kind of basic points. In  
22 the second column out of three, two-thirds of the way  
23 down, three-quarters of the way down --- well, the  
24 sentence begins halfway down. In the first such

1 longitudinal study of 145 children. Do you see that?

2 A. I see that.

3 Q. And it goes on to describe research that  
4 discovered the second wave of overproduction of gray  
5 matter, which it refers to as, quote, the thinking part  
6 of the brain, just prior to puberty. Do you see that?

7 A. I do.

8 Q. And it goes on to say that this second  
9 overproduction peaks at around age 11 in girls and 12 in  
10 boys. Do you see that?

11 A. Yes.

12 Q. And according to your earlier testimony, that is  
13 probably a bit into --- on average a bit into Tanner  
14 stage two.

15 Correct?

16 ATTORNEY BORELLI: Objection, form.

17 THE WITNESS: In general.

18 BY ATTORNEY BROOKS:

19 Q. So a little later than the beginning of Tanner  
20 stage two?

21 ATTORNEY BORELLI: Objection, form.

22 THE WITNESS: Based on averages, yes.

23 BY ATTORNEY BROOKS:

24 Q. So this second wave of development of the

1 thinking part of the brain happens sometime a bit after  
2 the beginning of Tanner stage two according to this  
3 description here?

4 ATTORNEY BORELLI: Objection, form.

5 THE WITNESS: So let me read it myself.

6 BY ATTORNEY BROOKS:

7 Q. Sure.

8 A. What you read was --- it starts before that. So  
9 I just want to read it.

10 Q. I did misspeak. Let me just re-ask my question  
11 ---

12 A. Okay.

13 Q. --- because I mixed up peaks and starts, right,  
14 that was the problem.

15 According to the description here this second  
16 wave of development of the thinking part of the brain,  
17 the gray matter, peaks at sometime after the beginning  
18 of Tanner stage two?

19 ATTORNEY BORELLI: Objection, form.

20 THE WITNESS: Peaks, yes.

21 BY ATTORNEY BROOKS:

22 Q. And is it consistent with your understanding  
23 that the gray matter in the brain is the thinking part  
24 of the brain or is that really outside your expertise

1 given that you're not a neurologist?

2 ATTORNEY BORELLI: Objection, form.

3 THE WITNESS: I think that that is basic  
4 enough in medical school that I can agree with that.

5 BY ATTORNEY BROOKS:

6 Q. Okay.

7 And in the next column, about the same distance  
8 down it reads, quote, the gray matter spurt --- growth  
9 spurt just prior to puberty --- we've already talked  
10 about the timing, predominates in the frontal lobe,  
11 which it goes on to say is the seat of, quote, executive  
12 functions, planning, impulse control, and reasoning,  
13 closed quote.

14 Do you see that?

15 A. I do.

16 Q. And is it within your knowledge or not within  
17 your knowledge that the frontal lobe is the seat of  
18 executive functions, including planning, impulse control  
19 and reasoning?

20 ATTORNEY BORELLI: Objection, form.

21 THE WITNESS: That is what my education  
22 has informed me.

23 BY ATTORNEY BROOKS:

24 Q. And certainly all of us you who have raised

1 children have gratefully seen that planning, impulse  
2 control and reasoning improve across the years of  
3 puberty.

4 Right?

5 ATTORNEY BORELLI: Objection, form.

6 BY ATTORNEY BROOKS:

7 Q. Maybe some ups and some downs?

8 A. I'm am just happy that it continuously improves  
9 the whole time.

10 Q. I won't press --- I won't pres the question.  
11 Have you, yourself, attempted to make any study of the  
12 timing of brain gray matter development and the role of  
13 puberty hormones in promoting that development?

14 ATTORNEY BORELLI: Objection, form.

15 THE WITNESS: I have not.

16 BY ATTORNEY BROOKS:

17 Q. What study, if any, have you made of the effects  
18 of blocking puberty and the increased level of hormones  
19 associated with puberty on this growth spurt in the  
20 thinking part of the brain that otherwise peaks at  
21 around 11 in girls and 12 in boys?

22 ATTORNEY BORELLI: Objection, form.

23 THE WITNESS: I have not done that study.

24 I don't see it here either.



1 BY ATTORNEY BROOKS:

2 Q. You said in your rebuttal report, paragraph 24,  
3 that patients with gender dysphoria who are treated with  
4 puberty delaying medication undergo hormonal puberty  
5 with all the same brain and other bodily system  
6 development. Do you recall writing that?

7 ATTORNEY BORELLI: Objection, form.

8 THE WITNESS: I'm sorry, could you ---?

9 BY ATTORNEY BROOKS:

10 Q. Right in front of you. Your rebuttal report is  
11 --- Exhibit 3?

12 A. I got it.

13 Q. Paragraph 24.

14 A. Thank you for your patience.

15 Q. Here, let me just find it. Let me see here.

16 And the second sentence says, quote, patients with  
17 gender dysphoria treated with puberty delaying  
18 medication undergo hormonal puberty with all the same  
19 brain and other bodily system development, closed quote.  
20 Do you see that?

21 A. Oh, wait. I must be looking at the wrong place.

22 Q. Paragraph 24, second sentence. It runs over the  
23 page?

24 A. I see. I see. Yeah. I see that.

1 Q. Now, all the same brain and bodily development  
2 is a really big absolute statement, isn't it?

3 ATTORNEY BORELLI: Objection, form.

4 THE WITNESS: There are --- you know, for  
5 the most part, people go through it in this manner. Of  
6 course, again, with medicine you can't say 100 percent.

7 BY ATTORNEY BROOKS:

8 Q. Well, specifically, as a scientist, based on the  
9 information available to you, you can't say with  
10 confidence that patients who are treated with puberty  
11 delaying medication undergo all the same brain and  
12 bodily system development, can you?

13 ATTORNEY BORELLI: Objection, form.

14 THE WITNESS: I used the medication for  
15 all of my career. I have followed patients through  
16 their --- into their puberty, in their growth. When  
17 they are done with their pubertal development, we have  
18 not seen any definable cognitive developmental issues  
19 with them. Haven't been able to identify that with any  
20 of my patients, including precocious puberty. There's  
21 not been any evidence in the literature over a year's  
22 worth of use of this medication that there's anything  
23 different happening to these individuals.

24 BY ATTORNEY BROOKS:

1 Q. Well, you also haven't done any systematic study  
2 of cognitive development of those for whom you have  
3 prescribed puberty blockers as compared to in a control  
4 group, have you?

5 ATTORNEY BORELLI: Objection, form.

6 THE WITNESS: Not personally.

7 BY ATTORNEY BROOKS:

8 Q. And the --- the Endocrine Society, 2017 --- let  
9 me ask you to turn in Exhibit 4 to page 3882. And we  
10 are in the section here that discusses a recommendation  
11 to use GRNH for purposes of puberty suppression when  
12 puberty suppression is indicated. Do you see that?  
13 That heading is on the previous page.

14 A. I see that.

15 Q. Just wanted to locate you in the discussion  
16 we're talking about puberty suppression. Now, back to  
17 3882. And the first thing --- the first sentence under  
18 the heading side effects states that, quote, the primary  
19 risks of puberty suppression in GD/gender incongruent  
20 adolescents may include and then it lists a number of  
21 things, one of which is, quote, unknown effects on brain  
22 development, closed quote. Do you see that?

23 A. I do.

24 Q. So the committee that put together the Endocrine

1 Society guidelines thought that the potential effects of  
2 puberty suppression on brain development were at 2017 at  
3 least unknown. You just disagreed?

4 ATTORNEY BORELLI: Objection, form.

5 THE WITNESS: I don't have any reason to  
6 believe that there's any different effect on individuals  
7 based on the research from early puberty and the studies  
8 that --- I mean, sorry, my experience with those  
9 patients. I would want to be watchful of those  
10 individuals as I would always who use any medication for  
11 potential issues.

12 BY ATTORNEY BROOKS:

13 Q. Endocrine Society thinks the effect on brain  
14 development is unknown and you, though you have done no  
15 systematic study, are of the view that you know that is  
16 not harmful to brain development. Am I accurately  
17 summarizing your testimony?

18 ATTORNEY BORELLI: Objection.

19 THE WITNESS: No.

20 BY ATTORNEY BROOKS:

21 Q. Let me ask it a different way if that was in  
22 accurate.

23 A. I am trying to tell you that you are able to  
24 look at the use of this medication in early pubertal

1 patients and see what happens to those individuals.  
2 Those outcomes can be used to give you some inference as  
3 to what might potentially happen if you use it later on  
4 for the same purpose of delaying puberty. It doesn't  
5 --- doesn't wholly rule out something different.

6 Q. And indeed, simply based on observation,  
7 nonsystematic observations from one clinic, it's not  
8 possible to rule out harmful effects on brain  
9 development, is it?

10 ATTORNEY BORELLI: Objection, form.

11 THE WITNESS: I'm not sure that there's  
12 any study you could do to completely rule out any effect  
13 --- any specific effect. Lots of individuals have  
14 different effects.

15 BY ATTORNEY BROOKS:

16 Q. And you in your clinic haven't attempted any  
17 study?

18 ATTORNEY BORELLI: Objection, form.

19 THE WITNESS: I have not done a study.

20 BY ATTORNEY BROOKS:

21 Q. Let me have tab 43. In your report you asserted  
22 that those treated with gender dysphoria undergo --- I'm  
23 sorry, those treated with puberty delaying medication  
24 experience all the same brain and other bodily system

1 developments. The only source you cite in support of  
2 that is a 2015 article by Staphorsius.

3 Correct?

4 A. I would have to look at it and verify that.

5 Q. Forty-three (43).

6 A. Which exhibit were you ---?

7 Q. I have not given it to you yet. I apologize.

8 A. No, I mean ---.

9 Q. Oh, it was paragraph 24 in your rebuttal report,  
10 which is ---.

11 A. Okay.

12 Q. All right.

13 Did you carefully read the Staphorsius article  
14 that you cited in paragraph 24 of your rebuttal report?

15 A. At some point in time I have read that, yes.

16 Q. Are you able to describe the experiment that is  
17 --- the study that was done in this Staphorsius report  
18 --- or the Staphorsius article?

19 ATTORNEY BORELLI: Objection.

20 THE WITNESS: I'm not --- familiar ---.

21 BY ATTORNEY BROOKS:

22 Q. You say also in paragraph 24 of your rebuttal  
23 report that Dr. Levine's claims with regard to concern  
24 about brain development is, quote, inaccurate for the

1 additional reason that some people never go through  
2 hormonal puberty such as patients with Turner syndrome  
3 and still have normal brain development with respect to  
4 cognition and executive function. Do you see that  
5 language?

6 A. Yes.

7 Q. And you don't cite anything for that. What is  
8 the basis for that assertion?

9 A. So when you look at the information regarding  
10 Turner syndrome within the medical literature as well as  
11 the --- my work with Marsha Gavenport at UNC who runs  
12 --- ran the biggest Turner syndrome registry, in that  
13 experience we did not see any patients that had problems  
14 with --- there may have been some that were --- had sort  
15 of issues with visual spatial skills but not cognitive  
16 issues. In fact, I have partners that are women with  
17 Turner syndrome that practice medicine.

18 Q. You will agree with me as a scientist, will you  
19 not, that kind of anecdotal information about a  
20 particular person you know is not very weighty evidence  
21 as to whether hormone changes associated with puberty  
22 are generally important to cognitive development of  
23 humans?

24 ATTORNEY BORELLI: Objection, form.

1                   THE WITNESS: We can delve into Turner  
2 syndrome literature.

3 BY ATTORNEY BROOKS:

4           Q.       Well, Dr. Adkins, I hope you understand that  
5 your obligation to prepare an expert report was to  
6 provide your opinions and the basis of your opinions.  
7 What literature are you relying on?

8                   ATTORNEY BORELLI: Objection, form.

9                   THE WITNESS: Every textbook that talks  
10 about Turner syndrome with regard to these patients  
11 talks about any of the issues that go along with that.  
12 I --- and that's something we study in our training as a  
13 pediatric endocrinologists because we see these patients  
14 routinely. So that has been my experience and training.

15 BY ATTORNEY BROOKS:

16           Q.       Well, can you identify --- every is not very  
17 useful. Can you identify for me a single source that  
18 reports based on statistically significant studies that  
19 individuals who never go through puberty experience all  
20 the same brain development as individuals who do go  
21 through puberty?

22                   ATTORNEY BORELLI: Objection, form.

23                   THE WITNESS: I would have to look back  
24 in the literature on those reports because we treat



1 patients now when we realize they are not going through  
2 puberty. I can't do that off the top of my head.

3 BY ATTORNEY BROOKS:

4 Q. And are you now contending that it is not widely  
5 accepted that hormonal changes associated with puberty  
6 drive important stages of brain growth?

7 ATTORNEY BORELLI: Objection, form.

8 THE WITNESS: I'm not saying that. What  
9 I'm saying is there are some things that are specific  
10 and you're generalizing my terms.

11 BY ATTORNEY BROOKS:

12 Q. Okay.

13 Well, flipping it around, you have also been  
14 taught whether or not it's --- if we're speaking in the  
15 area, I recognize you're not a neurologist.

16 Correct?

17 A. Correct.

18 Q. But it's your understanding that hormonal  
19 changes associated with puberty do drive important  
20 developmental stages in the human brain.

21 Correct?

22 ATTORNEY BORELLI: Objection, form.

23 THE WITNESS: Yes.

24 BY ATTORNEY BROOKS:

1 Q. And those are stages that, as we looked at in  
2 earlier document, include cognition, social skills,  
3 sexual development?

4 ATTORNEY BORELLI: Objection, form.

5 THE WITNESS: So you know, that is what  
6 is --- was written there. I agree that that can be  
7 affected by those --- by puberty. I also don't see in  
8 any of the literature around people who haven't gone  
9 with --- through puberty any mention of any of the  
10 concerning cognitive delays or other issues, again  
11 visual, spatial has been mentioned.

12 BY ATTORNEY BROOKS:

13 Q. Visual spatial, can you just --- for the  
14 uninitiated, the layman, can you explain what you're  
15 referring to?

16 A. For the use of like driving a car, looking at  
17 something and being able to estimate where it is or  
18 those sorts of things, navigating with a map versus not.

19 ATTORNEY BROOKS: Let me ask the court  
20 reporter how many minutes we still have on the clock.

21 COURT REPORTER: We're at six hours, 31  
22 minutes, so 29.

23 ATTORNEY BROOKS: Well, I had promised to  
24 hand it over with 30 minutes to go, so I have broken my

1 word. And I will stop and leave the remainder of the  
2 time to counsel for the State of West Virginia, Dave  
3 Tryon.

4 ---

5 EXAMINATION

6 ---

7 BY ATTORNEY TRYON:

8 Q. Hello, Dr. Adkins. Long day. I appreciate your  
9 time. My name is David Tryon and I do represent the  
10 State of West Virginia. I would like just to ---.

11 A. You're cutting out.

12 Q. Okay.

13 ATTORNEY BROOKS: You are going to have  
14 to speak up very clearly because you are literally  
15 disappearing half of the time and we have no work around  
16 for that.

17 BY ATTORNEY TRYON:

18 A. Okay.

19 I will speak very loudly. Can you hear me now?

20 A. Yes.

21 Q. Okay.

22 So thank you for your time my. Name is David  
23 Tryon. I am an attorney for the State of West Virginia.  
24 I would like to continue with some questions about your

1 rebuttal report. Do you still have that in front of  
2 you?

3 A. Yes.

4 Q. Okay.

5 First of all, you have indicated that you are  
6 --- I'm still here --- give me a moment --- you run a  
7 clinic.

8 Correct?

9 ATTORNEY BORELLI: Objection, form.

10 THE WITNESS: I have a clinic that I'm  
11 the medical director of, yes.

12 BY ATTORNEY TRYON:

13 Q. And that is --- I'm sorry, what's the name of  
14 the clinic again?

15 A. Duke Child and Adolescent Gender Clinic.

16 Q. What is a gender care clinic?

17 A. For our purposes in my clinic it includes  
18 patients who are transgender people who are --- also  
19 have intersex conditions as well.

20 Q. Are there other clinics that you consider gender  
21 care clinics elsewhere in the country?

22 A. Yes.

23 Q. Would you be able to estimate approximately how  
24 many of them there are?

1       A.       That number is changing a lot. It would be  
2       difficult for me to say accurately.

3       Q.       Would it be over 100?

4       A.       I'm not sure. I'm not sure.

5       Q.       Would it be over 50?

6       A.       Oh, it could be definitely over 50. It could be  
7       over 100, but I'm not sure.

8       Q.       And are you --- do you have any meetings with  
9       those other gender care clinics?

10                    ATTORNEY BORELLI: Objection, form.

11                    THE WITNESS: Yes.

12       BY ATTORNEY TRYON:

13       Q.       How many --- what fashion --- are those  
14       individual meetings or are they group meetings?

15       A.       A bit of both.

16       Q.       Are you aware of the practices of all of those  
17       other gender care clinics?

18                    ATTORNEY BORELLI: Objection, form.

19                    THE WITNESS: We do talk about practice  
20       when we meet with the ones that I meet with. Can't  
21       speak to all of the others.

22       BY ATTORNEY TRYON:

23       Q.       You are of course familiar with the practices in  
24       your clinic.

1 Correct?

2 A. Yes.

3 Q. Are you equally familiar with the practices of  
4 the other gender care clinics throughout the country?

5 ATTORNEY BORELLI: Objection, form.

6 THE WITNESS: I know a lot about them. I  
7 can't say I know everything.

8 BY ATTORNEY TRYON:

9 Q. Do you know if they have the exact same  
10 standards of care and practice that your clinic does?

11 ATTORNEY BORELLI: Objection, form.

12 THE WITNESS: We all have discussed that  
13 we follow the Endocrine Society guidelines as well as  
14 WPATH guidelines.

15 BY ATTORNEY TRYON:

16 Q. You have disagreed with some of the guidelines  
17 in the WPATH guidelines that Mr. Brooks has shown to  
18 you.

19 Correct?

20 ATTORNEY BORELLI: Objection, form.

21 THE WITNESS: I don't think I've seen the  
22 WPATH guidelines today.

23 BY ATTORNEY TRYON:

24 Q. Sorry, the Endocrine Society guidelines?

1                    ATTORNEY BORELLI:   Same objection.

2                    THE WITNESS:   So the Endocrine Society  
3   guidelines are guidelines.   All of us who use guidelines  
4   do vary some from those guidelines when it's appropriate  
5   for the particular patient.

6   BY ATTORNEY TRYON:

7            Q.        Do you know if the other clinics have the same  
8   reservations about the policies or guidelines in those  
9   --- in the endocrine Society's guidelines that you've  
10   expressed today?

11                   ATTORNEY BORELLI:   Objection, form.

12                   THE WITNESS:   I've had some discussions  
13   with people who have some reservations along the same  
14   lines that I do.

15   BY ATTORNEY TRYON:

16            Q.        How many clinics does that represent?

17            A.        Oh, you went out.   You went out.   Sorry.

18            Q.        How many clinics does that represent?

19                   ATTORNEY BORELLI:   Objection, form.

20                   THE WITNESS:   It's difficult for me to  
21   say because it is at our annual meeting and for some of  
22   the meetings, so it could be a lot.   In group meetings  
23   that we have, I have some that are one on one and I have  
24   some that are about five different groups.

1 BY ATTORNEY TRYON:

2 Q. So fair to say you don't know?

3 A. I'm sorry, you broke up again.

4 Q. Is it fair to say you do not know?

5 ATTORNEY BORELLI: Objection, form.

6 THE WITNESS: I do not know what?

7 BY ATTORNEY TRYON:

8 Q. You do not know which ones have the same  
9 reservations that you do about the provisions you've  
10 expressed reservations about today?

11 ATTORNEY BORELLI: Objection, form.

12 THE WITNESS: I know --- I know --- I  
13 know off the top of my head three. The others I may or  
14 may not know where an individual is from when they're  
15 talking in all of our meetings. They are big meetings.

16 BY ATTORNEY TRYON:

17 Q. What are those three?

18 A. So Rady Children's in Los Angeles and in  
19 Seattle, Children's and Texas, Children's.

20 BY ATTORNEY TRYON:

21 Q. Are there any gender care clinics in West  
22 Virginia?

23 ATTORNEY BORELLI: Objection to form.

24 THE WITNESS: I don't know personally any



1 endocrinologists that do pediatric endocrinology or  
2 gender care in West Virginia. I'm not aware.

3 BY ATTORNEY TRYON:

4 Q. In the rebuttal report, your paragraph 11, I'd  
5 like to ask you some questions about that. If you would  
6 turn there.

7 A. I got it.

8 Q. When did you --- well, did you write this  
9 paragraph 11?

10 ATTORNEY BORELLI: Objection, form.

11 THE WITNESS: Yes.

12 BY ATTORNEY TRYON:

13 Q. When did you write it?

14 ATTORNEY BORELLI: Objection, form.

15 THE WITNESS: I don't remember.

16 BY ATTORNEY TRYON:

17 Q. Was it after you received the expert reports  
18 from the Plaintiff's experts --- excuse me, from the  
19 Defendant's experts?

20 ATTORNEY BORELLI: Objection, form.

21 THE WITNESS: So we wrote the rebuttal  
22 after we received the expert witnesses from --- yes.

23 BY ATTORNEY TRYON:

24 Q. Who is we?

1       A.       I'm sorry. I wrote it --- I'm sorry. I'm  
2       getting really tired. I apologize. I wrote it.

3       Q.       In the --- I believe it is the third sentence  
4       says no medical treatment is provided to transgender  
5       youth until they have reached Tanner stage two. Do you  
6       see that?

7       A.       I do.

8       Q.       When you say no medical treatment, is that ---  
9       does that include affirmation therapy?

10                ATTORNEY BORELLI: Objection, form.

11                THE WITNESS: I am not aware of anything  
12       called affirmation therapy.

13       BY ATTORNEY TRYON:

14       Q.       Are you aware of the term affirmation for  
15       transgender individuals?

16                ATTORNEY BORELLI: Objection, form.

17                THE WITNESS: Gender affirming care is a  
18       term I am aware of.

19       BY ATTORNEY TRYON:

20       Q.       Do you consider gender affirming care to be  
21       medical treatment?

22                ATTORNEY BORELLI: Objection, form.

23                THE WITNESS: So it is meant to be  
24       wholistic, so part of it is medical, part of it is

1 social, part of it is surgical.

2 BY ATTORNEY TRYON:

3 Q. Is any gender affirming care provided to  
4 transgender youth before they reach Tanner stage two?

5 ATTORNEY BORELLI: Objection, form.

6 THE WITNESS: So the social transition is  
7 considered part of gender affirming care and some  
8 individuals do socially transition before Tanner stage  
9 two.

10 BY ATTORNEY TRYON:

11 Q. Do you assist them in that?

12 ATTORNEY BORELLI: Objection, form.

13 THE WITNESS: Not typically. They're not  
14 usually in my clinic until they are in puberty.

15 BY ATTORNEY TRYON:

16 Q. Is there any other type of gender affirming care  
17 which is conducted or provided prior to Tanner stage  
18 two?

19 ATTORNEY BORELLI: Objection, form.

20 THE WITNESS: Before Tanner stage two  
21 generally it's -- no --- no. No.

22 BY ATTORNEY TRYON:

23 Q. What do you consider to be medical treatment  
24 which is provided once they reach Tanner stage two?

1                    ATTORNEY BORELLI: Objection, form.

2                    THE WITNESS: Not every patient is  
3 treated with medication. So some do, some don't.  
4 Sometimes that is puberty blockers. Sometimes it is  
5 not. Sometimes it is gender affirming hormones  
6 depending on where they're in their development.

7 BY ATTORNEY TRYON:

8            Q.        What about surgery, is that considered medical  
9 treatment provided to transgender youth?

10                   ATTORNEY BORELLI: Objection, form.

11                   THE WITNESS: So patients who are  
12 children aren't having surgeries.

13 BY ATTORNEY TRYON:

14            Q.        What's the difference between youth and  
15 children?

16                   ATTORNEY BORELLI: Objection, form.

17                   THE WITNESS: Youth in general in my mind  
18 are somewhat similar to adolescents in that they have  
19 started puberty.

20 BY ATTORNEY TRYON:

21            Q.        At what point are --- is --- excuse me, at what  
22 point or age is surgery, medical treatment, provided to  
23 those who have gender dysphoria or considered to be  
24 transgender?

1                    ATTORNEY BORELLI:    Objection, form.

2                    THE WITNESS:    So you cut out and could  
3    you repeat the question?

4    BY ATTORNEY TRYON:

5            Q.        Yes.    Let me back up and make sure I understand.  
6    Surgery is considered medical treatment.

7                    Correct?

8                    ATTORNEY BORELLI:    Objection, form.

9                    THE WITNESS:    So I hesitate to use those  
10   words.   My surgical colleagues would take some offense  
11   at that.   They consider themselves surgeons and not  
12   medicine doctors.   So I think that's an opinion there.  
13   So I'm not sure that that phrase is appropriate.

14   BY ATTORNEY TRYON:

15            Q.        So when you refer to medical treatment in this  
16   statement does that include or exclude surgery?

17                    ATTORNEY BORELLI:    Objection, form.

18                    THE WITNESS:    They do not --- yeah, that  
19   would be inclusive of surgery in that particular  
20   statement.

21   BY ATTORNEY TRYON:

22            Q.        At what point is surgery provided to transgender  
23   persons?

24                    ATTORNEY BORELLI:    Objection, form.

1                   THE WITNESS: Well, not all individuals  
2 who are transgender actually have surgery. It depends  
3 on the patient. Many, many do not. Our recommendations  
4 are to wait until 18. There is a caveat in the  
5 Endocrine Society guidelines where some surgery could  
6 happen between 16 and 18, but generally 18 and up.

7 BY ATTORNEY TRYON:

8           Q.       Why wait until 18?

9                   ATTORNEY BORELLI: Objection, form.

10                  THE WITNESS: That is the --- as I  
11 understand it, the legal time at which a person has ---  
12 what is the word for it? You all are the legal people.  
13 I'm probably going to say it wrong, the ability to  
14 legally consent to things. Prior to that, we do get  
15 what's called an assent from the patient, but it's a  
16 little different than a consent from the patient if  
17 we're doing a general procedure.

18 BY ATTORNEY TRYON:

19           Q.       Why is that legal consent different for surgery  
20 then it is for puberty blockers?

21                  ATTORNEY BORELLI: Objection, form.

22                  THE WITNESS: As I mentioned before,  
23 puberty blockers aren't a permanent effect and surgery  
24 is complicated to reverse.

1 BY ATTORNEY TRYON:

2 Q. At the point in time that you prescribe puberty  
3 blockers for a natal male, that person has at that point  
4 concluded that they have a gender identity of female.

5 Correct?

6 ATTORNEY BORELLI: Objection, form.

7 THE WITNESS: So for puberty blockers  
8 they may not totally be clear on their gender identity.  
9 They do have dysphoria with the changes that are  
10 happening to their body at the time and need time to get  
11 a better understanding of their gender identity.

12 BY ATTORNEY TRYON:

13 Q. At what point do we know that they have a full  
14 understanding of their gender identity?

15 ATTORNEY BORELLI: Objection, form.

16 THE WITNESS: Again, we do our best to  
17 take each patient as they get older and they are  
18 consistent for a period of time. Again, the  
19 recommendation are at least six months. Everyone is  
20 different. Most of my patients' identity isn't changing  
21 substantially. Their understanding of their identity  
22 isn't changing substantially for longer than that before  
23 one would do anything different other than puberty  
24 blockers.

1 BY ATTORNEY TRYON:

2 Q. At what point --- someone comes to you and says  
3 I am a biological male or assigned male at birth,  
4 however you want to term that, but I identify it as a  
5 --- let me rephrase that because I'm not sure I said  
6 that right.

7 Someone comes to you and says I was born an  
8 assigned male at birth, but I identify as a female. I  
9 have identified as a female for two years now and I want  
10 to move forward with any treatment possible so that I  
11 can feel comfortable with my true identity as a female.  
12 You accept that as their true identity?

13 ATTORNEY BORELLI: Objection, form.

14 THE WITNESS: You didn't give an age and  
15 I do way that into consideration.

16 BY ATTORNEY TRYON:

17 Q. Let's say a ten year old?

18 ATTORNEY BORELLI: Objection, form.

19 THE WITNESS: So we as I mentioned in my  
20 earlier testimony also use assessments from other  
21 individuals with regard to the consistency of their  
22 gender identity and including family as well as their  
23 mental health providers and we would provide  
24 individualized care based on that patient.



1 BY ATTORNEY TRYON:

2 Q. At that point do you actually give a diagnosis  
3 that they are their true gender identity is female or  
4 what happens?

5 ATTORNEY BORELLI:

6 Objection, form.

7 THE WITNESS: Again, gender identity is a  
8 core part of their being and their understanding of it  
9 at the time is their understanding of it at the time and  
10 that is the only way that we can decide what someone's  
11 gender identity is.

12 BY ATTORNEY TRYON:

13 Q. So at that point in time where the child is 10  
14 or 12 or 14, at that point in time where they have  
15 concluded my true gender identity is not my natal sex of  
16 male but rather my true gender identity is a female, why  
17 shouldn't that child then be able to say I want gender  
18 --- I want surgery to remove my penis?

19 ATTORNEY BORELLI: Objection, form.

20 THE WITNESS: So we don't want to do  
21 anything that's permanent until a person is older and  
22 their cognitive development is broader. And in some  
23 cases, you know --- well, I'll stop there.

24 BY ATTORNEY TRYON:

1 Q. If that child says, this is extremely harmful to  
2 me to still have my penis at this age, I want it  
3 removed, and you said yourself that is extremely harmful  
4 to not allow this child to not play on a sports team  
5 with which that child identifies, isn't having a penis  
6 when the child doesn't want one even more harmful?

7 ATTORNEY BORELLI: Objection, form.

8 THE WITNESS: I think they're both ---  
9 those situations could cause a risk for self harm and  
10 suicide. We would not like to do something that is  
11 permanent. Playing on a sports team is not something  
12 that is unchangeable.

13 BY ATTORNEY TRYON:

14 Q. But you told me, you told us, that gender is  
15 unchangeable and that child at that point has  
16 identified as a female. And since that is not going to  
17 change what is the harm in removing that child's penis?

18 A. You broke up after what is the harm in removing  
19 that child.

20 Q. That child's penis?

21 ATTORNEY BORELLI: Objection, form.

22 THE WITNESS: I stated that their  
23 understanding of their gender identity occurs over the  
24 lifespan and so we want to be very careful with regard

1 to that --- any permanent treatment.

2 BY ATTORNEY TRYON:

3 Q. So you're saying you don't --- you're saying you  
4 don't believe that that child's true identity is a  
5 female, true gender identity is a female, you doubt that  
6 child?

7 ATTORNEY BORELLI: Objection, form.

8 THE WITNESS: I don't doubt what my  
9 patients tell me because --- what they tell me is their  
10 truth and their identity. I do like --- think it is  
11 important when you are making these decisions to again  
12 corroborate that with other individuals who are with the  
13 family --- I'm sorry, with the person. And we want to  
14 make sure that that is a durable place where their  
15 understanding is. Ideally, we would like for it to be  
16 as understood as it might be before making a decision  
17 that is a permanent decision like surgery.

18 VIDEOGRAPHER: Mr. Tryon, I sent you a  
19 chat, I didn't know if you saw that. I just wanted to  
20 give a five-minute warning.

21 ATTORNEY TRYON: Oh, it's five minutes  
22 left? Thank you. I did not see that. One moment.

23 BY ATTORNEY TRYON:

24 Q. You are getting paid as an expert witness in

1 this case right?

2 ATTORNEY BORELLI: Objection, form.

3 THE WITNESS: Yes.

4 BY ATTORNEY TRYON:

5 Q. Are you being paid as an expert witness in  
6 connection to any other litigation or testimony or any  
7 other statutes --- similar statutes?

8 ATTORNEY BORELLI: Objection, form.

9 THE WITNESS: I am --- have not been  
10 paid. I am involved in other --- another case, two  
11 cases.

12 BY ATTORNEY TRYON:

13 Q. What are those other two cases?

14 A. I'm not going to be able to tell you the name  
15 because I'm terrible with names. It involves  
16 transgender care in Arkansas as well as in  
17 sports-related issues with transgender youth in Florida.

18 Q. Have you testified in those cases yet?

19 A. I have not.

20 Q. You testified in other cases.

21 Right?

22 A. You broke up again. Could you repeat?

23 Q. You have testified in other cases.

24 Right?

1 A. Yes.

2 Q. Which cases are those?

3 A. The transgender-related cases were with Adams in  
4 Florida. Why am I blanking?

5 Q. Connecticut?

6 A. I did not actually --- I have not been deposed  
7 in --- except for Adams.

8 Q. Okay.

9 In your --- in your expert report you say that  
10 I have testified twice as an expert at trial or  
11 deposition.

12 A. Yeah, I was involved in another case as an  
13 expert witness and was deposed for a case involving an  
14 infant with fractures that were --- there was concern  
15 for abuse.

16 Q. I'm sorry, you froze on me. Can you tell me  
17 what that was again?

18 A. Yeah. There was a case that I was involved with  
19 where the patient's parents --- they had concern for  
20 abuse from the parents because the child had fractures.

21 Q. Well, I'm running out of time, so let me glance  
22 through my notes and see if there is anything else. Do  
23 you disagree with the policies of the other agents ---  
24 excuse me, of the sporting organizations which require a

1 delay in time before a transgender female can  
2 participate in those sports?

3 ATTORNEY BORELLI: Objection, form.

4 THE WITNESS: I think it would be better  
5 for the patient if they did not have to delay.

6 BY ATTORNEY TRYON:

7 Q. So you --- if it was up to you, you would  
8 eliminate that delay that is required by these other  
9 sports organizations.

10 Is that right?

11 ATTORNEY BORELLI: Objection, form.

12 THE WITNESS: I think it would be better  
13 for my patients. Yes.

14 BY ATTORNEY TRYON:

15 Q. And you think those organizations should change  
16 their policies to satisfy what your concern is?

17 ATTORNEY BORELLI: Objection, form.

18 THE WITNESS: You know, there is a lot to  
19 weigh there. I am not sure that I would be able to like  
20 say for their purposes. I don't know all of the things  
21 that are there. For my patients what would be best for  
22 them is to not to have to have that delay.

23 BY ATTORNEY TRYON:

24 Q. But would you agree with me that the State of

1 West Virginia had a lot to weigh as well when it put in  
2 place its legislation before they passed the law?

3 ATTORNEY BORELLI: Objection. Objection,  
4 form.

5 THE WITNESS: I would hope that every  
6 piece of legislation is weighed heavily.

7 BY ATTORNEY TRYON:

8 Q. And you would agree that in this case there was  
9 a lot to weigh on a number of different issues before  
10 they passed the law.

11 Correct?

12 ATTORNEY BORELLI: Objection, form.

13 THE WITNESS: I would agree. And I  
14 wasn't there to know what was, so I agree there should  
15 be.

16 BY ATTORNEY TRYON:

17 Q. I'm sorry. I didn't catch that. You froze up.  
18 Can you repeat that?

19 A. Sure. I agree there should have been. I wasn't  
20 there to hear what happened with regard to the process,  
21 so I don't know if they actually did that.

22 ATTORNEY TRYON:

23 Thank you. Do I have any time left,  
24 Jacob?

1                    VIDEOGRAPHER: I think that's the cap.

2                    ATTORNEY TRYON: Okay.

3                    Dr. Adkins, thank you very much for your  
4 time. Appreciate it.

5                    ATTORNEY BORELLI: This is Tara Borelli  
6 for Plaintiff, B.P.J.. Plaintiff has no questions for  
7 the witness. We will read and sign.

8                    VIDEOGRAPHER: That concludes this  
9 deposition. Current time reads 5:56 p.m. Eastern  
10 Standard Time.

11                    \* \* \* \* \*

12                    VIDEOTAPED DEPOSITION CONCLUDED AT 5:56 P.M.

13                    \* \* \* \* \*

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1 STATE OF WEST VIRGINIA )

2 CERTIFICATE

3 I, Lacey C. Scott, a Notary Public in  
4 and for the State of West Virginia, do hereby  
5 certify:

6 That the witness whose testimony appears  
7 in the foregoing deposition, was duly sworn by me  
8 on said date, and that the transcribed deposition  
9 of said witness is a true record of the testimony  
10 given by said witness;

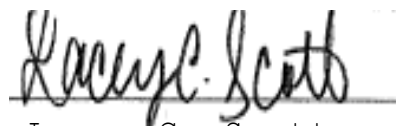
11 That the proceeding is herein recorded  
12 fully and accurately;

13 That I am neither attorney nor counsel  
14 for, nor related to any of the parties to the  
15 action in which these depositions were taken, and  
16 further that I am not a relative of any attorney  
17 or counsel employed by the parties hereto, or  
18 financially interested in this action.

19 I certify that the attached transcript  
20 meets the requirements set forth within article  
21 twenty-seven, chapter forty-seven of the West  
22 Virginia Code.



OFFICIAL SEAL  
NOTARY PUBLIC  
STATE OF WEST VIRGINIA  
Lacey C. Scott  
Sargent's Court Reporting Service, Inc.  
1234 Suncrest Towne Centre Drive  
Morgantown WV 26505  
My Commission Expires November 26, 2026

  
Lacey C. Scott,  
Court Reporter

IN THE UNITED STATES DISTRICT COURT  
FOR THE SOUTHERN DISTRICT OF WEST VIRGINIA  
CHARLESTON DIVISION

B.P.J. by her next friend and mother, HEATHER JACKSON,

*Plaintiff,*

v.

WEST VIRGINIA STATE BOARD OF EDUCATION, HARRISON COUNTY BOARD OF EDUCATION, WEST VIRGINIA SECONDARY SCHOOL ACTIVITIES COMMISSION, W. CLAYTON BURCH in his official capacity as State Superintendent, DORA STUTLER in her official capacity as Harrison County Superintendent, and THE STATE OF WEST VIRGINIA,

*Defendants,*

and

LAINEY ARMISTEAD,

*Defendant-Intervenor.*

Civil Action No. 2:21-cv-00316

Hon. Joseph R. Goodwin

**EXPERT REPORT AND DECLARATION OF  
JOSHUA D. SAFER, MD, FACP, FACE**

1. I have been retained by counsel for Plaintiffs as an expert in connection with the above-captioned litigation.

2. The purpose of this expert report and declaration is to offer my expert opinion on: (1) relevant medical and scientific background regarding gender identity and the attempted regulation of transgender women playing women's sports, including the Endocrine Society's Guidelines for providing gender-affirming care to transgender people; (2) the policies of athletic organizations regarding the participation of transgender women in women's sports, the difficulties that have arisen when athletic associations have attempted to define a person's sex,

and the relationship of these policies to the scholastic context; and (3) whether there is any medical justification for West Virginia's exclusion of transgender women and girls from school sports, including whether the available scientific evidence supports West Virginia's assertion that "classification of athletic teams according to" an "individual's reproductive biology and genetics at birth sex" "is necessary to promote equal athletic opportunities for the female sex."

3. I have knowledge of the matters stated in this expert report and declaration and have collected and cite to relevant literature concerning the issues that arise in this litigation in the body of this declaration and in the attached bibliography.

4. In preparing this expert report and declaration, I relied on my scientific education and training, my research experience, and my knowledge of the scientific literature in the pertinent fields. The materials I have relied upon in preparing this declaration are the same types of materials that experts in my field of study regularly rely upon when forming opinions on the subject. I may wish to supplement these opinions or the bases for them as a result of new scientific research or publications or in response to statements and issues that may arise in my area of expertise.

### **PROFESSIONAL BACKGROUND**

5. I am a Staff Physician in the Endocrinology Division of the Department of Medicine at the Mount Sinai Hospital and Mount Sinai Beth Israel Medical Center in New York, NY. I serve as Executive Director of the Center for Transgender Medicine and Surgery at Mount Sinai. I also hold an academic appointment as Professor of Medicine in Mount Sinai's Icahn School of Medicine. A true and correct copy of my CV is attached hereto as Exhibit A.

6. I have been Board Certified in Endocrinology, Diabetes and Metabolism by the American Board of Internal Medicine since 1997.

7. I graduated from the University of Wisconsin in Madison with a Bachelor of Science degree in 1986. I earned my Doctor of Medicine degree from the University of Wisconsin in 1990. I completed intern and resident training at Mount Sinai School of Medicine, Beth Israel Medical Center in New York, New York from 1990 to 1993. From 1993 to 1994, I was a Clinical Fellow in Endocrinology at Harvard Medical School and Beth Israel Deaconess Medical Center in Boston, Massachusetts. I stayed at the same institution, serving as a Clinical and Research Fellow in Endocrinology under Fredric Wondisford, from 1994 to 1996.

8. Since 1997, I have evaluated and treated patients along with conducting research in endocrinology. Since 2004, my patient care and research has been focused on the medicine/science specific to transgender people. I have led several other programs either in transgender medicine or in general endocrinology. In particular, I served as the Medical Director of the Center for Transgender Medicine and Surgery, Boston Medical Center, Boston, MA (2016-2018); as the Director of Medical Education, Endocrinology Section, Boston University School of Medicine, Boston, MA (2007-2018); as the Program Director for Endocrinology Fellowship Training, Boston University Medical Center, Boston, MA (2007-2018); and as Director of the Thyroid Clinic, Boston Medical Center, Boston, MA (1999-2003).

9. I have authored or coauthored over 100 peer-reviewed papers including many critical reviews; textbook chapters; and case reports in endocrinology and transgender medicine.

10. Among my publications are the latest review of transgender medicine in the New England Journal of Medicine and the latest review of transgender medicine in the Annals of Internal Medicine. *See* Safer JD, Tangpricha V. Care of transgender persons. *N Engl J Med* 2019; 381:2451-2460; Safer JD, Tangpricha V. Care of the transgender patient. *Ann Intern Med* 2019; 171:ITC1-ITC16. I am also a co-author of the sections of UpToDate that relate to gender-

affirming hormone treatment for transgender people. UpToDate is an evidence-based, physician authored, on-line medical guide and is currently the most widely used such guide among medical providers.

11. I was the inaugural President of the United States Professional Association for Transgender Health (“USPATH”). I have served in several other leadership roles in professional societies related to endocrinology and transgender health. These societies include the Alliance of Academic Internal Medicine, the American College of Physicians Council of Subspecialty Societies, the American Board of Internal Medicine, the Association of Program Directors in Endocrinology and Metabolism, and the American Thyroid Association.

12. Since 2014, I have held various roles as a member of the World Professional Association for Transgender Health (“WPATH”), the leading international organization focused on transgender health care. WPATH has approximately 2,000 members throughout the world and is comprised of physicians, psychiatrists, psychologists, social workers, surgeons, and other health professionals who specialize in health care for transgender people. From 2016 to the present, I have served on the Writing Committee for Standards of Care for the Health of Transsexual, Transgender, and Gender Nonconforming People.

13. I have served in various roles as a member of the Endocrine Society since 2014. I served on a nine-expert Task Force to develop the Endocrine Treatment of Transgender Persons Clinical Practice Guideline from 2014 to 2017. The experts on the Task Force which included me, a methodologist, and a medical writer co-authored the “Endocrine Treatment of Gender-Dysphoria/Gender Incongruent Persons: An Endocrine Society Clinical Practice Guideline,” (“Endocrine Society Guidelines”), available at <https://academic.oup.com/jcem/article/102/11/3869/4157558>.

14. I have served as a Transgender Medicine Guidelines Drafting Group Member for the International Olympic Committee (“IOC”) since 2017.

15. Since 2019, I have also served as a drafting group member of the transgender medical guidelines of World Athletics, formerly known as the International Amateur Athletic Federation (“IAAF”).

16. I have not previously testified as an expert witness in either deposition or at trial. I am being compensated at an hourly rate of \$250 per hour for preparation of expert declarations and reports, and \$400 per hour for time spent preparing for or giving deposition or trial testimony. My compensation does not depend on the outcome of this litigation, the opinions I express, or the testimony I provide.

#### **RELEVANT MEDICAL AND SCIENTIFIC BACKGROUND**

17. “Gender identity” is the medical term for a person’s internal, innate sense of belonging to a particular sex. *See* Endocrine Society Guidelines, Tbl.1 *and* Safer JD, Tangpricha V. Care of transgender persons. *N Engl J Med* 2019; 381:2451–2460, Tbl.1.

18. Although the detailed mechanisms are unknown, there is a medical consensus that there is a significant biologic component underlying gender identity. Safer JD, Tangpricha V. Care of transgender persons. *N Engl J Med* 2019; 381:2451-2460; Safer JD, Tangpricha V. Care of the transgender patient. *Ann Intern Med* 2019; 171:ITC1-ITC16. A person’s gender identity is durable and cannot be changed by medical intervention.

19. The terms “gender identity,” “gender roles,” and “gender expression” refer to different things.

20. Gender roles are behaviors, attitudes, and personality traits that a society (in a given culture and historical period) designates as masculine or feminine and/or that society

associates with or considers typical of the social role of men or women. *See* Endocrine Society Guidelines Tbl.1. The convention that girls wear pink and have longer hair, or that boys wear blue and have shorter hair, are examples of socially constructed gender roles from a particular culture and historical period.

21. By contrast, “gender identity” does not refer to a set of socially contingent behaviors, attitudes, or personality traits that a society designates as masculine or feminine. It is an internal and largely biological phenomenon.

22. Gender expression is how a person communicates gender identity both internally and to others. *See* Safer JD, Tangpricha V. Care of transgender persons. *N Engl J Med* 2019; 381:2451–2460, Tbl.1. For example, a person with a female gender identity might express her identity through typically feminine outward expressions of gender roles like wearing longer hair or more typically feminine clothing.

23. The phrase “biological sex” is an imprecise term that can cause confusion. A person’s sex encompasses the sum of several different biological attributes, including sex chromosomes, certain genes, gonads, sex hormone levels, internal and external genitalia, other secondary sex characteristics, and gender identity. Those attributes are not always aligned in the same direction. *See* Endocrine Society Guidelines; Safer JD, Tangpricha V. Care of transgender persons. *N Engl J Med* 2019; 381:2451–2460.

24. Before puberty, boys and girls typically have the same levels of circulating testosterone. After puberty, the typical range of circulating testosterone for non-transgender women is similar to before puberty (<1.7 nmol/L), and the typical range of circulating testosterone for non-transgender men is 9.4-35 nmol/L. *See* Endocrine Society Guidelines (p 3888) *and* Safer JD, Tangpricha V. Care of transgender persons. *N Engl J Med* 2019.

25. Before puberty, age-grade competitive sports records show minimal or no differences in athletic performance between non-transgender boys and non-transgender girls before puberty. But after puberty, non-transgender boys and men as a group have better average performance outcomes in most athletic competitions when compared to non-transgender girls and women as a group. Based on current research comparing non-transgender boys and men with non-transgender girls and women before, during, and after puberty, the primary known biological driver of these average group differences is testosterone starting at puberty, and not reproductive biology or genetics. *See Handelsman DJ, et al. Circulating testosterone as the hormonal basis of sex differences in athletic performance. Endocrine Reviews 2018; 39:803–829, (p 820) (summarizing evidence rejecting hypothesis that physiological characteristics are driven by Y chromosome).*

26. Although there are ranges of testosterone that are considered typical for non-transgender men and women, many non-transgender women have testosterone levels outside the typical range.

a. Approximately 6% to 10% of women have a condition called polycystic ovary syndrome (PCOS), which can raise women's testosterone levels up to 4.8 nmol/L.

b. Some elite female athletes have “46,XY DSDs,” a group of conditions where individuals have XY chromosomes but are born with typically female external genitalia and assigned a female sex at birth. Among individuals with 46,XY DSD some may have inactive testosterone receptors (a syndrome called “complete androgen insensitivity syndrome, CAIS”) which means they don't respond to testosterone despite very high levels. Usually, these individuals have female gender identity and have external genitalia



that are typically female. They do not develop the physical characteristics associated with typical male puberty.

c. Other individuals with 46,XY DSD may have responsive testosterone receptors. These individuals may have female gender identity but at puberty they may start to develop higher levels of testosterone along with secondary sex characteristics that are typically masculine.

### **WORLD ATHLETICS POLICIES FOR WOMEN WITH HYPERANDROGENISM AND WOMEN WHO ARE TRANSGENDER**

27. World Athletics is the international governing body for the sport of track-and-field athletics. Beginning in 2011, World Athletics (then known as IAAF) began requiring that women with elevated levels of circulating testosterone lower their levels of testosterone below a threshold amount in order to compete in elite international women's sports competitions. Under the 2011 regulations, women with hyperandrogenemia (defined as serum testosterone levels above the normal range) were allowed to compete only if they demonstrated that they had testosterone levels below 10 nmol/L or that they had CAIS, preventing their bodies from responding to testosterone.<sup>1</sup>

28. In 2018 the IAAF issued revised regulations lowering the maximum testosterone threshold to 5 nmol/L.<sup>2</sup> The revised regulations were upheld by the Court of Arbitration for Sport ("CAS") in 2019.

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<sup>1</sup> A copy of the 2011 regulation is available at [https://www.bmj.com/sites/default/files/response\\_attachments/2014/06/IAAF%20Regulations%20\(Final\)-AMG-30.04.2011.pdf](https://www.bmj.com/sites/default/files/response_attachments/2014/06/IAAF%20Regulations%20(Final)-AMG-30.04.2011.pdf)

<sup>2</sup> A copy of the 2018 regulations is available at <https://www.iaaf.org/download/download?filename=fd2923ad-992f-4e43-9a70-78789d390113.pdf&urlslug=IAAF%20Eligibility%20Regulations%20for%20the%20Female%20Classification%20%5BAthletes%20with%20Differences%20of%20Sex%20Development%5D%20in%20force%20as%20from%208%20May%202019>

29. In 2019, the IAAF adopted regulations allowing women who are transgender to participate in elite international women's sports competitions if their total testosterone level in serum is beneath a particular threshold for at least one year before competition. The IAAF set the threshold at 5 nmol/L, which was the same threshold set by the IAAF's 2018 regulations for non-transgender women with hyperandrogenism that had been upheld by the CAS when contested.<sup>3</sup>

30. The IAAF rules are consistent with the Endocrine Society Guidelines for the treatment of women who are transgender, which recommend that hormone therapy target circulating testosterone levels to a typical female range at or below 1.7 nmol/L (Endocrine Society Guidelines, p. 3887) and with the study of testosterone levels achieved in practice by medically treated women who are transgender (Liang JJ, et al. Testosterone levels achieved by medically treated transgender women in a United States endocrinology clinic cohort. *Endocrine Practice* 2018; 24:135-142).

#### **INTERNATIONAL OLYMPIC COMMITTEE POLICIES FOR WOMEN WHO ARE TRANSGENDER**

31. Formal eligibility rules for the participation of transgender women in the Olympics were published in 2003. The 2003 rules required that transgender women athletes could compete in women's events only if they had genital surgery, a gonadectomy (*i.e.*, removal of the testes), and legal documentation of female sex.<sup>4</sup>

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<sup>3</sup> A copy of the 2019 regulations is available at <https://www.google.com/url?sa=t&ret=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwi8qbOnsNL0AhUBkIkEHWDpAiQQFnoECAUQAQ&url=https%3A%2F%2Fwww.worldathletics.org%2Fdownload%2Fdownload%3Ffilename%3Dace036ec-a21f-4a4a-9646-fb3c40fe80be.pdf%26urlslug%3DC3.5%2520-%2520Eligibility%2520Regulations%2520Transgender%2520Athletes&usg=AOvVaw1aPuD3gUoz5hcGKgmumVb5>

<sup>4</sup> A copy of the 2003 policy is available at <https://olympics.com/ioc/news/ioc-approves-consensus-with-regard-to-athletes-who-have-changed-sex-1>

32. However, many women who are transgender are treated with medicines alone and don't have gonadectomy. As well, many jurisdictions do not have systems to document the sex of transgender people. In some jurisdictions, being transgender is illegal, and disclosure that someone is transgender can be unsafe.

33. Therefore, in 2015, the IOC adopted new guidance modeled after the IAAF's 2011 regulations for non-transgender women with hyperandrogenism. Under the 2015 IOC guidance, women who are transgender were required to demonstrate that their total testosterone level in serum was below 10 nmol/L for at least one year prior to competition. The 10 nmol/L threshold was the same threshold set by the IAAF's 2011 regulations.<sup>5</sup>

34. In 2021, the IOC adopted a new "Framework on Fairness, Inclusion, and Non-Discrimination on the Basis of Gender Identity and Sex Variations" (the "2021 framework"), which replaces the 2015 guidance.<sup>6</sup>

35. Unlike the IOC's 2003 and 2015 policies, the IOC's 2021 framework does not attempt to adopt a single set of eligibility standards for the participation of transgender athletes that would apply universally to every IOC sport. Instead, the 2021 framework provides a set of governing principles for sporting bodies to follow when adopting eligibility rules for their particular sport.

36. Under the 2021 framework, "[n]o athlete should be precluded from competing or excluded from competition on the exclusive ground of an unverified, alleged or perceived unfair

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<sup>5</sup> A copy of the 2015 policy is available at [https://stillmed.olympic.org/Documents/Commissions\\_PDFfiles/Medical\\_commission/2015-11\\_ioc\\_consensus\\_meeting\\_on\\_sex\\_reassignment\\_and\\_hyperandrogenism-en.pdf](https://stillmed.olympic.org/Documents/Commissions_PDFfiles/Medical_commission/2015-11_ioc_consensus_meeting_on_sex_reassignment_and_hyperandrogenism-en.pdf)

<sup>6</sup> A copy of the 2021 framework is available at [https://stillmed.olympics.com/media/Documents/News/2021/11/IOC-Framework-Fairness-Inclusion-Non-discrimination-2021.pdf?\\_ga=2.207516307.1210589288.1636993769-1638189514.1636993769](https://stillmed.olympics.com/media/Documents/News/2021/11/IOC-Framework-Fairness-Inclusion-Non-discrimination-2021.pdf?_ga=2.207516307.1210589288.1636993769-1638189514.1636993769)

competitive advantage due to their sex variations, physical appearance and/or transgender status.” Principle 5.1. “Until evidence . . . determines otherwise, athletes should not be deemed to have an unfair or disproportionate competitive advantage due to their sex variations, physical appearance and/or transgender status.” Principles 5.2.

37. The 2021 framework further provides that “[a]ny restrictions arising from eligibility criteria should be based on robust and peer reviewed research that: (a) demonstrates a consistent, unfair, disproportionate competitive advantage in performance and/or an unpreventable risk to the physical safety of other athletes; (b) is largely based on data collected from a demographic group that is consistent in gender and athletic engagement with the group that the eligibility criteria aim to regulate; and (c) demonstrates that such disproportionate competitive advantage and/or unpreventable risk exists for the specific sport, discipline and event that the eligibility criteria aim to regulate.” Principle 6.1

#### **NCAA POLICIES FOR WOMEN WHO ARE TRANSGENDER**

38. Since 2011, the National College Athletics Association (“NCAA”) has allowed women who are transgender to participate on the same teams as other women after one year of testosterone suppression. Under the NCAA policy transgender student-athletes certified that they have been on hormone therapy for a period of one year. The NCAA policy did not require ongoing testosterone testing.

39. The NCAA recently announced that it has revised its policy to adopt a “sport-by-sport approach” that “aligns transgender student-athlete participation for college sports with recent policy changes.” *See* NCAA Media Center: Board of Governors updates transgender participation policy (Jan. 19, 2022), at <https://www.ncaa.org/news/2022/1/19/media-center-board-of-governors-updates-transgender-participation-policy.aspx>. “Like the Olympics, the

updated NCAA policy calls for transgender participation for each sport to be determined by the policy for the national governing body of that sport, subject to ongoing review and recommendation by the NCAA Committee on Competitive Safeguards and Medical Aspects of Sports to the Board of Governors.” *Id.* The new NCAA policy contemplates that for certain sports, the national governing body for the sport may require transgender athletes “to document sport-specific testosterone levels.” *Id.*

#### **PARTICIPATION OF GIRLS AND WOMEN WHO ARE TRANSGENDER IN THE SCHOLASTIC CONTEXT**

40. The policies developed by World Athletics and the IOC for transgender athletes were based on the particular context of elite international competition. Not all of the same considerations apply in scholastic contexts.

41. The World Athletics and prior IOC policies were more stringent than the prior NCAA policy because those organizations were concerned with creating policies that cannot be manipulated by governments that are not bound by the rule of law. For example, there have been many well-known examples of state-sponsored doping scandals. The Russian Olympic team is currently banned from international competition due to an organized doping effort. Also, there have been cases where governments have issued fraudulent birth certificates and identification documents. In 2000, Yang Yun was a medal winner in Gymnastics from the Chinese team. She later reported that she was 14-years-old at the time in violation of the rule that all athletes for her events had to be at least 16-years-old. In 2008, He Kexin was 14-years-old when participating in Gymnastics for the Chinese team in violation of the same rule that athletes be at least 16-years-old in those events. A new passport for Ms. He had hastily appeared 6 months prior to the Olympic Games that year with a new birth year so that Ms. He could qualify.

42. To confront the significant problem of state-sponsored cheating, World Athletics and the IOC have to develop eligibility criteria for transgender athletes that can be independently verified to prevent manipulation by non-transgender athletes, and that do not depend on the gender marker listed on identification documentation issued by an athlete's home country. Those concerns do not apply to scholastic athletic competitions in the United States. Scholastic athletic associations can rely on school records to show that an athlete is a girl who is transgender and has socially transitioned to live consistently with her gender identity as a girl.

43. The eligibility criteria for World Athletics and the IOC were also created as part of a system in which elite athletes in international competitions are already regulated and monitored in some circumstances like for doping. Within that context, testing female athletes' levels of testosterone is somewhat analogous to the types of restrictions and invasion of privacy that already exist. By contrast, in athletic competitions that are not as heavily regulated and monitored, it is hard to justify singling out girls who are transgender, girls with 46,XY DSDs, or girls who may just appear more typically masculine for special testosterone requirements that impose a significant additional burden.

44. The concerns that animated the World Athletics and prior IOC policies are even more attenuated for students in middle school and high school, where athletes' ages typically range from 11-18, with different athletes in different stages of pubertal development. Increased testosterone begins to affect athletic performance at the beginning of puberty, but those effects continue to increase each year of puberty until about age 18, with the full impact of puberty resulting from the cumulative effect of each year. As a result, a 14, 15, or 16-year old has experienced less cumulative impact from testosterone than a 17 or 18-year old.

45. Finally, unlike elite international competitions, schools and colleges often provide athletic competition as part of a broader educational mission. In that context, when scholastic athletics are a component of the educational process, institutions may adopt policies designed to emphasize inclusion and to provide the most athletic opportunities to the greatest number of people.

### **WEST VIRGINIA’S HB 3293**

46. There is no medical justification for West Virginia’s categorical exclusion of girls who are transgender from participating in scholastic athletics on the same teams as other girls.

47. HB 3293 states that “[c]lassification of teams according to biological sex is necessary to promote equal athletic opportunities for the female sex.” The law defines “biological sex” as “an individual’s physical form as a male or female based solely on the individual’s reproductive biology and genetics at birth.”

48. West Virginia’s definition of “biological sex” does not reflect any medical understanding of that ambiguous term. As noted above, a person’s sex encompasses the sum of several different biological attributes, including sex chromosomes, certain genes, gonads, sex hormone levels, internal and external genitalia, other secondary sex characteristics, and gender identity. Those attributes are not always aligned in the same direction. *See* Endocrine Society Guidelines; Safer JD, Tangpricha V. Care of transgender persons. *N Engl J Med* 2019; 381:2451-2460. For example, if West Virginia defines “biological sex” solely based on “reproductive biology and genetics at birth” it is not clear how West Virginia would define the “biological sex” of children with “46,XY DSDs,” who have XY chromosomes but typically female external reproductive anatomy.

49. Even as applied to people without intersex characteristics or 46,XY DSDs, the statutory definition of “biological sex” is inconsistent with West Virginia’s stated goal of “promot[ing] equal athletic opportunities for the female sex.” By excluding girls who are transgender based on “biological sex,” and defining that term to mean “reproductive biology and genetics at birth,” West Virginia categorically prevents girls who are transgender from participating on girls’ teams regardless of whether they are pre-pubertal, receiving puberty blockers, or receiving gender-affirming hormone therapy. But based on current research, the primary known biological cause of average differences in athletic performance between non-transgender men as a group and non-transgender women as a group is circulating testosterone—not “reproductive biology and genetics at birth.” A person’s genetic makeup and internal and external reproductive anatomy are not useful indicators of athletic performance and have not been used in elite competition for decades.

50. With respect to average athletic performance, girls and women who are transgender and who do not go through endogenous puberty are somewhat similarly situated to women with XY chromosomes who have complete androgen insensitivity syndrome. It has long been recognized that women with CAIS have no athletic advantage simply by virtue of having XY chromosomes. *See also* Handelsman DJ, *et al.* Circulating testosterone as the hormonal basis of sex differences in athletic performance. *Endocrine Reviews* 2018; 39:803–29, p .820 (summarizing evidence rejecting hypothesis that physiological characteristics are driven by Y chromosome).

51. HB 3293 is also dramatically out of step with even the most stringent policies of elite international athletic competitions for girls and women who are transgender and who have gone through endogenous puberty. Unlike the policies of the IOC, World Athletics, or the



NCAA, HB 3293 excludes girls and women who are transgender from participating on girls' and women's sports teams even if they have suppressed their circulating levels of testosterone through gender-affirming hormone therapy.

52. Some critics of the prior IOC guidelines and World Athletics and NCAA policies have speculated that lowering the level of circulating testosterone does not fully mitigate the athletic advantage derived from endogenous puberty. But there is no basis to assert with any degree of confidence that this hypothesis is true. Based on the limited data available, it is equally or more plausible to hypothesize that women who are transgender could be at a net *disadvantage* in particular sports after receiving gender affirming hormone therapy, as compared to non-transgender women.

53. For example, transgender women who go through typically male puberty will tend to have larger bones than non-transgender women, even after receiving gender-affirming hormone therapy. But larger bones may be a disadvantage for transgender women who have typically female levels of circulating testosterone. Muscle mass will be decreased with the shift to female levels of circulating testosterone. Having larger bones without corresponding levels of testosterone and muscle mass would mean that a runner has a bigger body to propel with less power to propel it.

54. Similarly, in a sport where athletes compete in different weight classes (*e.g.* weight lifting), the fact that a transgender woman has bigger bones may be a disadvantage because her ratio of muscle-to-bone will be much lower than the ratio for other women in her weight class who have smaller bones.

55. There are only two studies examining the effects of gender-affirming hormone therapy on the athletic performance of transgender female athletes. The first is a small study of

eight long-distance runners who are transgender women. The study showed that after undergoing gender-affirming medical intervention, which included lowering their testosterone levels, the athletes' performance was reduced so that their performance when compared to non-transgender women was proportionally the same as their performance had been before treatment relative to non-transgender men. *See Harper J. Race times for transgender athletes. Journal of Sporting Cultures and Identities* 2015; 6:1–9.

56. A more recent study retrospectively reviewed the military fitness test results of 46 transgender women in the U.S. Air Force before and after receiving gender-affirming hormone therapy. These authors found that any advantage transgender women had over non-transgender women in performing push-ups and sit-ups was negated after 2 years. The study also found that before beginning gender affirming hormone therapy, transgender women completed the 1.5 mile run 21% faster on average than non-transgender women; and after 2 years of gender-affirming hormone therapy, transgender women completed the 1.5 mile run 12% faster on average than non-transgender women. *See Roberts TA, Smalley J, Ahrendt D. Effect of gender affirming hormones on athletic performance in transwomen and transmen: implications for sporting organisations and legislators. Br J Sports Med.* 2020.

57. Neither of these limited studies proves there are meaningful athletic advantages for transgender women after receiving gender-affirming hormone therapy, which could only be shown by longitudinal transgender athlete case-comparison studies that control for variations in hormonal exposure and involve numerous indices of performance. Moreover, the ability to perform push-ups and sit-ups or to run 1.5 miles does not necessarily translate into an athletic advantage in any particular athletic event. Because different sports require different types of physical performance, the studies suggest that the existence and extent of a performance

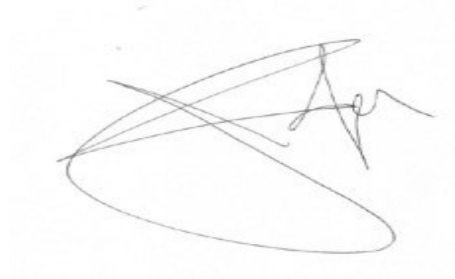
advantage may vary from sport to sport and should not be subject to a categorical across-the-board rule.

58. Even if evidence were eventually to show that on average transgender women have some level of advantage compared to average non-transgender women, those findings would have to be placed in context of all the other intra-sex genetic variations among athletes that can enhance athletic performance among different women or different men.

59. For example, in the academic literature, there are gene sequence variations that can be associated with athleticism referred to as “performance enhancing polymorphisms” or “PEPs.” A PEP is a variation in the DNA sequence that is associated with improved athletic performance. For example, variations in mitochondrial DNA have been associated with greater endurance capacity and greater mitochondrial density in muscles. Other PEPs are associated with blood flow or muscle structure. *See* Ostrander EA, et al. Genetics of athletic performance. *Annu Rev Genomics Hum Genet* 2009; 10:407–429.

60. As the IOC’s 2021 framework recognizes, there is no inherent reason why transgender women’s physiological characteristics related to athletic performance should be treated as any more of an “unfair” advantage than the advantages that already exist among different women athletes. The 2021 framework instructs that, even at the most elite level of competition, sporting organizations should base eligibility restrictions on whether there exists “a consistent, unfair, and disproportionate competitive advantage” when viewed within the broader context of all the other intra-sex variations that may give a comparative athletic advantage to a particular athlete.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

A handwritten signature in black ink, appearing to read 'J. Safer', is written over a large, faint, oval-shaped watermark or background mark.

Executed on January 21, 2022

Joshua D. Safer, MD, FACP, FACE

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Safer JD, Tangpricha V. Care of transgender persons. *N Engl J Med* 2019; 381:2451-2460.

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# EXHIBIT A

**CURRICULUM VITAE****Joshua D. Safer, MD, FACP, FACE****January 6, 2022**Office Address: 275 7<sup>th</sup> Avenue, 15<sup>th</sup> Floor

New York, NY 10001

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E-mail: jsafer0115@gmail.com

**Academic Training**

1990 MD University of Wisconsin School of Medicine, Madison, WI  
 1986 BS University of Wisconsin, Madison, WI, Economics

**Postdoctoral Training**

1994 - 1996 Clinical and Research Fellow, Endocrinology, under Fredric Wondisford, Harvard Medical School - Beth Israel Deaconess Medical Center, Boston, MA  
 1993 - 1994 Clinical Fellow, Endocrinology, Harvard Medical School and Beth Israel Deaconess Medical Center, Boston, MA  
 1990 - 1993 Intern and Resident, Department of Medicine, The Mount Sinai School of Medicine, Beth Israel Medical Center, New York City, NY

**Academic Appointments**

2019 - present Professor of Medicine, Icahn School of Medicine at Mount Sinai, New York, NY  
 2006 - 2018 Associate Professor of Medicine and Molecular Medicine, Boston University School of Medicine  
 1999 - 2005 Assistant Professor of Medicine, Boston University School of Medicine  
 1996 - 1999 Instructor in Medicine, Harvard Medical School  
 1993 - 1996 Fellow in Medicine, Harvard Medical School

**Hospital Appointments**

2018 - present Staff Physician, The Mount Sinai Hospital, New York City, NY  
 2018 - present Staff Physician, Mount Sinai Beth Israel Medical Center, New York City, NY  
 1999 - 2018 Staff Physician, Boston University Medical Center, Boston, MA  
 2001 - 2006 Staff Physician, Veterans Administration Boston Health Care, Boston, MA  
 1996 - 1999 Staff Physician, Beth Israel Deaconess Medical Center, Boston, MA  
 1990 - 1993 House Staff, Beth Israel Medical Center, New York City, NY

**Other Medical Staff Appointments**

2004 - 2013 Staff Physician, Massachusetts Institute of Technology Medical, Cambridge, MA  
 1994 - 1999 Physician, Harvard Vanguard Medical Associates, Boston, MA  
 1987 - 1996 Captain, United States Army Reserve, Medical Corps

**Joshua D. Safer, MD, FACP, FACE****Honors:**

2019	Fellow, American College of Endocrinology
2019	Preaw Hansere Memorial Lecture, University of Wisconsin-Madison
2017	Lesbian, Gay, Bisexual and Transgender Health Award, Massachusetts Medical Society
2012	Outstanding Service Award, Association of Program Directors in Endocrinology and Metabolism
2007	Fellow, American College of Physicians
2004	Boston University School of Medicine Outstanding Student Mentor Award
2001	Abbott Thyroid Research Advisory Council Award
1996	Knoll Thyroid Research Clinical Fellowship Award, Endocrine Society
1995	Trainee Investigator Award for Excellence in Scientific Research, American Federation for Clinical Research (AFCR)
1994	Trainee Investigator Award for Excellence in Scientific Research, AFCR
1990	The University of Wisconsin Medical Alumni Association Award
1988-1990	Senior Class President, University of Wisconsin, School of Medicine

**Licensure and Certification**

1997	Board Certification in Endocrinology, Diabetes and Metabolism, American Board of Internal Medicine, recertified 2007, 2017
1994	Board Certification in Internal Medicine, American Board of Internal Medicine, recertified 2007
1993	Massachusetts License Registration #77459, inactive
1990	New York License Registration #187263-1

**Departmental and University Committees*****Icahn School of Medicine at Mount Sinai***

2020-present	Mount Sinai Disparities and Equity Research Taskforce Steering Committee
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***Boston Medical Center***

2016-2018	Physician Satisfaction Task Force, Department of Medicine
2016-2018	Transgender Patient Task Force
2006-2017	Pharmacy and Therapeutics Committee, Health Net Plan

***Boston University School of Medicine***

2009-2018	Admissions Committee
2005	Review Committee, Department of Medicine Pilot Project Grants
2000	Residency and Fellowship Core Curriculum Committee,
2000-2018	Internship Selection Committee, Residency Program in Medicine



**Joshua D. Safer, MD, FACP, FACE**

***Boston University Goldman School of Dental Medicine***

2003-2018 Course Directors Committee, Goldman School of Dental Medicine

**Teaching Experience and Responsibilities**

***Icahn School of Medicine at Mount Sinai***

2019-present Lecturer in Endocrinology, Second-year Pathophysiology Course

***Tufts University School of Medicine***

2016-2018 Lecturer in Endocrinology, Second-year Pathophysiology Course

***Boston University School of Medicine***

2003-2018 Course Director, Disease and Therapy - Endocrinology Section

1999-2018 Regular lectures to medical students, residents, and fellows on thyroid disease, diabetes insipidus, and transgender medicine

***Boston University Goldman School of Dental Medicine***

2002-2018 Course Director, General Medicine and Dental Correlations

2002-2018 Course Director, Medical Concerns in the Dental Patient

**Joshua D. Safer, MD, FACP, FACE****Major Administrative Responsibilities**

2018-present	Executive Director, Center for Transgender Medicine and Surgery, Mount Sinai Health System, New York City, NY
2016-2018	Medical Director, Center for Transgender Medicine and Surgery, Boston Medical Center, Boston, MA
2007-2018	Director, Medical Education, Endocrinology Section, Boston University School of Medicine, Boston, MA
2007-2018	Program Director, Endocrinology Fellowship Training, Boston University Medical Center, Boston, MA
1999-2003	Director, Thyroid Clinic, Boston Medical Center, Boston, MA

**Other Professional Activities****Professional Societies: Memberships**

2016-present	United States Professional Association for Transgender Health (USPATH)
2014-present	World Professional Association for Transgender Health (WPATH)
2007-present	Association of Program Directors in Endocrinology and Metabolism (APDEM)
2007-present	Association of Specialty Professors (ASP), Alliance of Academic Internal Medicine (AAIM)
1999-present	American Association of Clinical Endocrinologists
1998-2018	American Thyroid Association
1995-present	Endocrine Society
1994-present	American College of Physicians
1994-1996	American Federation for Medical Research
1993-2018	Massachusetts Medical Society

**Professional Societies: Offices Held and Committee Assignments****International*****World Athletics (formerly IAAF)***

2019-present	Drafting Group Member, Transgender Medical Guidelines
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***International Olympic Committee (IOC)***

2017-present	Drafting Group Member, Transgender Medical Guidelines
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***World Professional Association for Transgender Health (WPATH)***

2016-present	Writing Committee Member, Standards of Care for the Health of Transsexual, Transgender, and Gender Nonconforming People
2016-2018	Co-Chair, Scientific Committee, International Meeting, Buenos Aires - 2018
2015-2016	Chair, Scientific Committee, International Meeting, Amsterdam - 2016
2015-present	Task Force Member, Global Education Institute
2015-present	Media Liaison

**Joshua D. Safer, MD, FACP, FACE*****TransNet – International Consortium for Transgender Medicine and Health Research***

2014-present Secretary and Co-Chair, Steering Committee

**National*****United States Professional Association for Transgender Health (USPATH)***

2018-2019 President

***Alliance of Academic Internal Medicine***

2016-2019 Chair, Compliance Committee  
 2016-2017 Committee member, Compensation  
 2015-2016 President, Association of Specialty Professors (ASP)  
 2014-2017 Council member  
 2014-2019 Task Force member, Program Planning  
 2014-2019 Work Group member, Survey Center  
 2013-2015 Chair, Program Planning Committee, ASP  
 2012-2017 Council member, ASP  
 2012-2013 Chair, Membership Services Committee, ASP  
 2010-2015 Chair, Program Directors Site Visit Training Seminar, ASP  
 2007-2013 Committee member, Membership Services, ASP

***American College of Physicians***

2016-2018 Council of Subspecialty Societies member

***Endocrine Society***

2020-present Transgender Medicine, Special Interest Group member  
 2017-present Advisory Board member, Transgender/Disorders of Sex Development  
 2017-2020 Committee member, Clinical Endocrine Education  
 2014-present Media Liaison for Transgender Medicine  
 2014-2017 Task Force member, Endocrine Treatment of Transgender Persons Clinical Practice Guideline

***American Board of Internal Medicine***

2013-2018 Task Force member, Endocrinology Procedures  
 2013 Task Force member, ASP/AAIM/ACGME/ABIM Joint Next Accreditation System Internal Medicine Subspecialty Milestones

***Association of Program Directors in Endocrinology and Metabolism***

2017-2018 Secretary-Treasurer  
 2012-2018 Task Force member, Next Accreditation System Endocrinology Milestones  
 2011-2012 Task Force member, Procedures Accreditation  
 2010-2012 Council member  
 2009-2016 Chair, Site Visit/Curriculum Web-Toolbox Committee

***American Thyroid Association***

2006-2009 Publications Committee member  
 2004 Program Committee member

**Joshua D. Safer, MD, FACP, FACE****Editorships and Editorial Boards**

2018-present	Associate Editor, <i>Transgender Health</i>
2017-present	Editorial Advisory Board, <i>Endocrine News</i>
2016-present	Transgender Section Co-Editor, <i>UpToDate</i>
2015-present	Editorial Board, <i>Transgender Health</i>
2015-present	Editorial Board, <i>International Journal of Transgender Health</i>
2013-2018	Associate Editor, <i>Journal of Clinical &amp; Translational Endocrinology</i>
2007-present	Editorial Board, <i>Endocrine Practice</i>

**External Medical Advising and Consulting****International**

2016-present	International transgender athlete guidelines, Medical and Scientific Commission, International Olympic Committee
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**National**

2017	Transgender medical and surgical treatment, National Collegiate Athletic Association,
2017	Safety for transgender medical treatment, Food and Drug Administration, United States
2015-present	Transgender workforce and military readiness, Department of Defense, United States
2014	Transgender prison population health, Federal Bureau of Prisons, United States

**Regional**

2011-2018	Transgender prison population health, Massachusetts Department of Correction
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**Joshua D. Safer, MD, FACP, FACE****Past Other Support**

2018-2022	Keith Haring Foundation, <b>PI: Joshua D. Safer</b> , Pilot Program to Develop Clinical Program in Transgender Medicine for Children and Adolescents
2015-2016	R13 HD084267, <b>Multi-PI: Joshua D. Safer</b> , TransNet: Developing a Research Agenda in Transgender Health and Medicine
2014-2015	Boston Foundation, Equality Fund, <b>PI: Joshua D. Safer</b> , Pilot Program to Educate Physicians in Transgender Medicine
2013-2014	Evans Foundation, <b>PI: Joshua D. Safer</b> , A Pilot Curriculum in Transgender Medicine
2001-2003	Thyroid Research Advisory Council, <b>PI: Joshua D. Safer</b> , Thyroid Hormone Action on Skin
2001-2002	Evans Foundation, <b>PI: Joshua D. Safer</b> , Thyroid Hormone Action on Skin
1996-2001	K08 DK02423, <b>PI: Joshua D. Safer</b> , Characterization of Central Resistance to Thyroid Hormone

**Joshua D. Safer, MD, FACP, FACE****Conferences Organized****International Conferences*****World Professional Association for Transgender Health***

November, 2020 Bi-annual meeting, Planning Committee (remote)

November, 2018 Bi-annual meeting, Scientific Co-Chair, Buenos Aires, Argentina

June, 2016 Bi-annual meeting, Scientific Co-Chair, Amsterdam, Netherlands

November, 2015 Global Education Initiative, inaugural conference, Chicago, IL

***TransNet – International Consortium for Transgender Health and Medicine Research***

May, 2016 International meeting to set transgender medicine research priorities, Amsterdam, Netherlands

May, 2015 NIH conference to set transgender medicine research priorities, Bethesda, MD

June, 2014 Inaugural meeting, Chicago, IL

**National Conferences**

February, 2019 Live Surgery Course for Gender Affirmation Procedures, Mount Sinai Hospital and WPATH, New York City, NY

April, 2018 Live Surgery Course for Gender Affirmation Procedures, Mount Sinai Hospital and WPATH, New York City, NY

January, 2017 United States Professional Association for Transgender Health (USPATH) bi-annual meeting, Los Angeles, CA

November, 2015 NIH/Alliance for Academic Internal Medicine - Physician Researcher Workforce Taskforce Meeting, Washington, DC

October, 2015 National Internal Medicine Subspecialty Summit, Atlanta, GA

June, 2013 Special Symposium: “Transgender Medicine – What Every Physician Should Know” Annual Meeting of the Endocrine Society, San Francisco, CA

April, 2011 2011 ASP Accreditation Seminar "Meeting the ACGME and RRC-IM Standards for Successful Fellowship Programs" Arlington, VA

***Alliance for Academic Internal Medicine***

April, 2015 2015 ASP Accreditation Seminar “Moving Your Fellowship Program Forward” Spring Meeting, Houston, TX

April, 2014 2014 ASP Accreditation Seminar “NAS for Medical Subspecialties Is Almost Here” Spring Meeting, Nashville, TN

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- May, 2013 2013 ASP Accreditation Seminar “A Changing Landscape in Subspecialty Fellowship Education” Spring Meeting, Lake Buena Vista, FL
- April, 2012 2012 ASP Accreditation Seminar “Meeting ACGME and RRC-IM Standards for Successful Fellowship Programs” Spring Meeting, Atlanta, GA

**Invited Lectures and Presentations****International**

- January, 2020 “Transgender Medicine”, World Professional Association for Transgender Health Global Education Initiative, Hanoi, Vietnam
- September, 2019 “Transgender Women” International Association of Athletics Federations (IAAF), Lausanne, Switzerland
- November, 2018 “Transgender Medicine”, World Professional Association for Transgender Health Annual Meeting, Buenos Aires, Argentina
- October, 2018 “Transgender Medicine”, Canadian Endocrine Diabetes Meeting, Halifax, NS, Canada
- June, 2018 “21<sup>st</sup>-Century Strategies: Transgender Hormone Care” CMIN Summit 2018, Porto, Portugal
- February, 2017 “A 21<sup>st</sup>-Century Framework to for Transgender Medical Care” Sheba Hospital, Tel Aviv, Israel
- October, 2016 “A 21<sup>st</sup>-Century Approach to Hormone Treatment of Transgender Individuals” EndoBridge, Antalya, Turkey
- May, 2016 “Transgender Women” International Olympic Committee Headquarters, Lausanne, Switzerland
- October, 2015 “Workshop on Guidelines for Transgender Health Care” Canadian Professional Association for Transgender Health, Halifax, NS
- March, 2015 “Endocrinology - Hormone Induced Changes” Transgender Health Care in Europe, European Professional Association for Transgender Health, Ghent, Belgium
- June, 2014 “What to Know to Feel Safe Providing Hormone Therapy for Transgender Patients” International Congress of Endocrinology, Chicago, IL
- September, 2011 “Transgender Therapy – The Endocrine Society Guidelines” World Professional Association for Transgender Health, Atlanta, GA
- February, 2007 “Treating skin disease by manipulating thyroid hormone action” Grand Rounds, Meier Hospital, Kfar Saba, Israel
- March, 2004 “New Directions in Thyroid Hormone Action: Skin and Hair” Grand Rounds, Meier Hospital, Kfar Saba, Israel
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May, 2021 “Transgender Medicine”, University of Cincinnati Medicine Grand Rounds, Cincinnati, OH (scheduled)

September, 2020 “Transgender Medicine”, Peds Place Conference, University of Arkansas, AR (remote)

September, 2020 “Transgender Medicine”, University of California-Irvine Medicine Grand Rounds, Irvine, CA (remote)

June, 2020 “Transgender Medicine”, Inova Fairfax Medicine Grand Rounds, Fairfax, VA (remote)

December, 2019 “Transgender Medicine”, Vanderbilt University Surgery Grand Rounds, Nashville, TN

November, 2019 “Transgender Medicine”, Medical College of Wisconsin CME, Milwaukee, WI

September, 2019 “Transgender Medicine”, Beth Israel Deaconess Medicine Grand Rounds, Boston, MA

September, 2019 “Transgender Medicine”, United States Professional Association for Transgender Health Annual Meeting, Washington, DC

June, 2019 “Transgender Medicine”, Mount Sinai Hospital Internal Medicine CME, New York, NY

April, 2019 “A 21<sup>st</sup>-Century Strategy for Hormone Treatment of Transgender Individuals” National Transgender Health Summit, Oakland, CA

March, 2019 “Transgender Medicine” National Eating Disorders Meeting, New York, NY

January, 2019 “Transgender Medicine” Yale School of Medicine Obstetrics and Gynecology Grand Rounds, New Haven, CT

January, 2019 “Transgender Medicine” Yale School of Medicine Endocrinology Grand Rounds, New Haven, CT

January, 2019 “Transgender Medicine” Drexel School of Medicine Medicine Grand Rounds, Philadelphia, PA

September, 2018 “Current Guidelines and Strategy for Hormone Treatment of Transgender Individuals” Minnesota-Midwest Chapter - American Association of Clinical Endocrinologists Annual Meeting, Minneapolis, MN

July, 2018 “21<sup>st</sup>-Century Strategies for Transgender Hormone Care” Ohio River Valley Chapter - American Association of Clinical Endocrinologists Meeting, Indianapolis, IN

June, 2018 “21<sup>st</sup>-Century Strategies: Transgender Hormone Care” University of Connecticut School of Medicine, Hartford, CT

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- May, 2018 “A 21<sup>st</sup>-Century Strategy for Hormone Treatment of Transgender Individuals” American Association of Clinical Endocrinologists Annual Meeting, Boston, MA
- March, 2018 “21<sup>st</sup>-Century Strategies for Transgender Hormone Care” New Jersey Chapter - American Association of Clinical Endocrinologists Meeting, Morristown, NJ
- February, 2018 “A Strategy for the Medical Care of Transgender Individuals” Keynote Address for the International Society for Clinical Densitometry Annual Meeting, Boston, MA
- November, 2017 “A 21<sup>st</sup>-Century Strategy for Hormone Treatment of Transgender Individuals” National Transgender Health Summit, Oakland, CA
- September, 2017 “Transgender Therapy – The Endocrine Society Guidelines” Endocrine Society: Clinical Endocrinology Update, Chicago, IL
- May, 2017 “Transgender Medicine – a 21<sup>st</sup> Century Strategy for Patient Care” University of Arizona College of Medicine, Tucson, AR
- April, 2017 “Transgender Care Across the Age Continuum” Annual Meeting of the Endocrine Society, Orlando, FL
- March, 2017 “A 21<sup>st</sup>-Century Approach to Hormone Treatment of Transgender Individuals” Brown University School of Medicine, Providence, RI
- March, 2017 “What to Know: A 21<sup>st</sup>-Century Approach to Transgender Medical Care” United States Food and Drug Administration (FDA), Washington, DC
- February, 2017 “A 21<sup>st</sup>-Century Approach to Transgender Medical Care” United States Professional Association for Transgender Health, Los Angeles, CA
- February, 2017 “A 21<sup>st</sup>-Century Approach to Hormone Treatment of Transgender Individuals” Southern States American Association of Clinical Endocrinologists Annual Meeting, Memphis, TN
- December, 2016 “Transgender Medical Care in the United States Armed Forces” Global Education Initiative, World Professional Association for Transgender Health, Arlington, VA
- December, 2016 “Foundations in Hormone Treatment” Global Education Initiative, World Professional Association for Transgender Health, Arlington, VA
- November, 2016 “Developing a Transgender/Gender-Identity Curriculum for Medical Students” Association of American Medical Colleges National Meeting, Seattle, WA
- September, 2016 “A 21<sup>st</sup>-Century Approach to Hormone Treatment of Transgender Individuals” Endocrine Society: Clinical Endocrinology Update, Seattle, WA
- August, 2016 “A 21<sup>st</sup>-Century Approach to Hormone Treatment of Transgender Individuals” Oregon Health and Science University Ashland Endocrine Conference, Ashland, OR
- March, 2016 “State-of-the-Art: Use of Hormones in Transgender Individuals” Annual Meeting of the Endocrine Society, Boston, MA

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- October, 2015 “What Every Endocrinologist Should Know to Feel Safe Providing Hormone Therapy for Transgender Patients” University of Utah School of Medicine, Salt Lake City, UT
- April, 2015 “What to Know –to Feel Safe Providing Hormone Therapy for Transgender Patients” Pritzker School of Medicine, University of Chicago, Chicago, IL
- March, 2015 “What to Know –to Feel Safe with Hormone Therapy for Transgender Patients” Annual Transgender Health Symposium, Medical College of Wisconsin, Milwaukee, WI
- May, 2014 “Transgendocrinology” Annual Meeting of the American Association of Clinical Endocrinologists, Las Vegas, NV
- May, 2013 “Transgender Therapy – Hormone Action and Nuance” National Transgender Health Summit, Oakland, CA
- April, 2013 “Transgender Therapy – What Every Provider Needs to Know” Empire Conference: Transgender Health and Wellness, Albany, NY
- April, 2013 “Transgender Therapy – What Every Endocrinologist Needs to Know” University of Maryland School of Medicine, Baltimore, MD
- November, 2012 “Transgender Therapy – What Every Endocrinologist Should Know” New York University School of Medicine, New York, NY
- May, 2010 “Transgender Treatment: What Every Endocrinologist Needs to Know” Brown University School of Medicine, Providence, RI
- November, 2009 “New Directions in Thyroid Hormone Action: Skin and Hair” Emory University School of Medicine, Atlanta, GA
- November, 2009 “Primary Care Update in the Treatment of Thyroid Disorders” Emory University School of Medicine, Atlanta, GA
- October, 2008 “Topical Iopanoic Acid Stimulates Epidermal Proliferation through Inhibition of the Type 3 Thyroid Hormone Deiodinase” Annual Meeting of the American Thyroid Association, Chicago, IL
- February, 2005 “New Directions in Thyroid Hormone Action: Skin and Hair” Endocrinology Grand Rounds, University of Minnesota, Minneapolis, MN
- February, 2005 “Thyroid Hormone Action on Skin and Hair: What We Thought We Knew” Dermatology Grand Rounds, University of Minnesota, Minneapolis, MN
- December, 2004 “Transgender Therapy: The Role of the Endocrinologist” Endocrinology Grand Rounds, Brown Medical Center, Providence, RI
- November, 2003 “New Directions in Thyroid Hormone Action: Skin and Hair” Endocrinology Grand Rounds, Dartmouth Medical Center, Hanover, NH

**Joshua D. Safer, MD, FACP, FACE****Regional**

May, 2021 “Transgender Medicine”, New York GYN Society, New York, NY (scheduled)

July, 2020 “Transgender Medicine”, LGBT Health Conference CME, New York, NY

February, 2020 “Transgender Medicine”, Englewood Hospital Medicine Grand Rounds, Englewood, NJ

February, 2020 “Transgender Medicine”, Endocrinology Grand Rounds, Columbia College of Physicians and Surgeons, New York, NY

January, 2020 “Transgender Medicine”, CEI, Lake Placid, NY

November, 2019 “Transgender Medicine”, Weill Cornell Reproductive Endocrine Grand Rounds, New York, NY

November, 2019 “Transgender Medicine”, Acacia Network Grand Rounds, New York, NY

October, 2019 “Transgender Medicine”, American Association of Clinical Endocrinologists - New Jersey, annual meeting, Morristown, NJ

October, 2019 “Transgender Medicine”, Community Health Network annual conference, New York, NY

October, 2019 “Transgender Medicine”, Westchester Medical Center Medicine Grand Rounds, Valhalla, NY

September, 2019 “Transgender Medicine”, Weill Cornell Reproductive Endocrine CME, New York, NY

September, 2019 “Transgender Competency for Medical Providers”, Working Group on Gender, Columbia College of Physicians and Surgeons, New York, NY

April, 2019 “Transgender Medicine”, Weill Cornell Urology Grand Rounds, New York, NY

June, 2018 “21<sup>st</sup>-Century Strategies: Transgender Hormone Care” Medicine Grand Rounds, Staten Island University Hospital, Staten Island, NY

February, 2018 “Transgender Medicine – 21<sup>st</sup> Century Strategies for Patient Care” Medicine Rounds, Newton-Wellesley Hospital, Newton, MA

October, 2017 “Transgender Medicine – 21<sup>st</sup> Century Strategies for Patient Care” Medicine Rounds, Beth Israel-Milton Hospital, Milton, MA

September, 2017 “Transgender Medicine – 21<sup>st</sup> Century Strategies for Patient Care” Obstetrics-Gynecology Grand Rounds, Brigham and Women’s Hospital, Boston, MA

June, 2017 “State-of-the-Art: Hormone Therapy for Transgender Patients” Reproductive Endocrinology Rounds, Massachusetts General Hospital, Boston, MA

May, 2017 “A 21<sup>st</sup>-Century Strategy for Medical Treatment of Transgender Individuals” Boston Medical Center and Boston University School of Medicine, Boston, MA

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- March, 2017 “A 21<sup>st</sup>-Century Strategy for Medical Treatment of Transgender Individuals” Tufts Medicine Grand Rounds, Boston, MA
- January, 2017 “What to Know: A 21<sup>st</sup>-Century Approach to Transgender Medical Care” Internal Medicine Rounds, Brigham and Women’s Hospital, Boston, MA
- March, 2016 “State-of-the-Art: Hormone Therapy for Transgender Patients” Obstetrics-Gynecology Rounds, Brigham and Women’s Hospital, Boston, MA
- November, 2015 “What Every Endocrinologist Should Know to Feel Safe Providing Hormone Therapy for Transgender Patients” Endocrinology Rounds, Tufts Medical Center, Boston, MA
- May, 2015 “What Every Endocrinologist Should Know to Feel Safe Providing Hormone Therapy for Transgender Patients” Endocrinology Rounds, Massachusetts General Hospital, Boston, MA
- December, 2014 “What to Know to Feel Safe Providing Hormone Therapy for Transgender Patients” Endocrinology Rounds, Beth Israel Deaconess Medical Center, Boston, MA
- November, 2013 “Transgender Therapy – What Every Physician Should Know” Medicine Grand Rounds, Boston Veterans Administration Hospital, Boston, MA
- May, 2005 “Transgender Therapy: The Role of the Endocrinologist”, Endocrinology Rounds, Tufts-New England Medical Center, Boston, MA
- January, 2004 “New Directions in Thyroid Hormone Action: Skin and Hair”, Endocrinology Rounds, Brigham and Women’s Hospital, Boston, MA
- October, 1999 “The Many Faces of Hypothyroidism”, Medicine Grand Rounds, Bedford Veterans Administration Hospital, Bedford, MA

**Institutional, Icahn School of Medicine at Mount Sinai, New York, NY**

- October, 2019 “Transgender Medicine”, East Harlem HOP rounds, New York, NY
- October, 2019 “Transgender Medicine”, Mount Sinai HIV rounds, New York, NY
- August, 2019 “Transgender Medicine”, Mount Sinai Endocrinology Fellows Conference, New York, NY
- February, 2019 “Transgender Medicine”, Mount Sinai Endocrinology Grand Rounds, New York, NY
- February, 2019 “Transgender Medicine”, Mount Sinai Ob-Gyn Grand Rounds, New York, NY
- April, 2018 “21<sup>st</sup>-Century Strategies for Transgender Hormone Care”, HIV Grand Rounds

**Institutional, Boston University School of Medicine, Boston, MA**

- March, 2017 “State of the Art Hormone Therapy for Transgender Patients”, Section of Infectious Disease

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- January, 2017 “What you need to know – to supervise care for our transgender patients at BMC”, Section of Endocrinology
- February, 2016 “State of the Art Hormone Therapy for Transgender Patients”, Department of Medicine
- November, 2015 “What the Family Medicine Physician Should Know to Feel Safe Providing Hormone Therapy for Transgender Patients”, Department of Family Medicine
- November, 2014 “What the Anesthesiologist Should Know to Feel Safe Providing Hormone Therapy for Transgender Patients”, Department of Anesthesia
- January, 2014 “Update on the Current Guidelines for Transgender Hormone Therapy”, Section of Endocrinology
- October, 2011 “Transgender Therapy – What Every Physician Should Know”, Department of Medicine
- February, 2011 “Current Guidelines for Transgender Hormone Therapy: What Every Endocrinologist Should Know”, Section of Endocrinology
- November, 2005 “Thyroiditis and Other Insults to Thyroid Function” Core Curriculum in Adult Primary Care Medicine
- November, 2005 “Interpretation of Thyroid Function Tests Made Easy” Core Curriculum in Adult Primary Care Medicine
- January, 2005 “Transgender Therapy: The Role of the Endocrinologist” Endocrinology Grand Rounds
- December, 2004 "Update in Endocrinology: Thyroid" Medicine Grand Rounds
- January, 2004 “New Directions in Thyroid Hormone Action: Skin and Hair” Medicine Grand Rounds
- March, 2003 “Thyroid Hormone Action on Hair and Skin” Endocrinology Grand Rounds
- November, 1999 “Central Resistance to Thyroid Hormone – From Bedside to Bench” Endocrinology Grand Rounds

**Joshua D. Safer, MD, FACP, FACE****Curriculum development with external dissemination**

2014-present Web site for Association of Program Directors of Endocrinology and Metabolism (APDEM), which serves as *the primary resource for endocrinology fellowship program directors throughout the United States and Canada.*

- Sample curricula
- Streaming lectures to support specific curricular needs to fill programmatic gaps at certain programs
- New assessment forms that map skills to milestones that conform to Next Accreditation System (NAS) standards of the Accreditation Council for Graduate Medical Education (ACGME)

2013-present Dissemination of Transgender Medicine Curriculum with local modification to institutions in the United States and Canada

Curriculum adopted

**Johns Hopkins School of Nursing** (sample video:  
<http://vimeo.com/jhunursing/review/97477269/abbcf6d33a>)  
**Ohio State University College of Medicine**  
**University of British Columbia, Faculty of Medicine**  
**University of Central Florida College of Medicine**  
**Tufts University School of Medicine**

Curriculum in development

**Dartmouth School of Medicine**  
**University of Vermont College of Medicine**

Work in progress in preparation for sharing transgender curriculum

Albany Medical College  
 Emory School of Medicine  
 George Washington University Medical School  
 Hofstra School of Medicine  
 University of California – San Diego School of Medicine  
 University of Kentucky College of Medicine  
 University of Louisville School of Medicine  
 University of Michigan Medical School  
 University of Minnesota Medical School  
 University of Nebraska School of Medicine  
 University of Pennsylvania School of Medicine  
 Washington University School of Medicine

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2013-2015 Co-author of the *Medical Subspecialty Reporting Milestones used for evaluation of Internal Medicine subspecialty medicine fellowship programs throughout the United States* by the Accreditation Council for Graduate Medical Education (ACGME).

<https://www.acgme.org/acgmeweb/Portals/0/PDFs/Milestones/InternalMedicineSubspecialtyMilestones.pdf>

2011-2014 Web site content expert for APDEM, which served as *the primary resource for endocrinology fellowship Program Directors throughout the United States and Canada*. Materials included sample curricula, streaming lectures to support specific curricular needs to feel programmatic gaps at certain programs, and guidance dealing with ACGME site-visits

**Other curriculum development**

2019-present Massive Open On-line Course (MOOC) curricular content. Transgender Medicine for General Medical Providers, Icahn School of Medicine at Mount Sinai  
(<https://www.coursera.org/courses?query=transgender%20medicine%20for%20general%20medical%20providers&>)

2016-2018 Curricular Content to teach transgender hormone therapy in the LGBT elective at Harvard Medical School

2016-2018 Curricular Content to teach transgender hormone therapy at Tufts University School of Medicine.

2011-2018 Fully revised curriculum for the Boston University Medical Center Fellowship Training Program in Endocrinology, Diabetes and Nutrition.

2010-2018 Curricula to teach transgender hormone therapy at Boston University School of Medicine.

2006-2014 Written examination in endocrinology to complement the multiple-choice examination for medical students — validation relative to success later in medical school is in progress.



**Joshua D. Safer, MD, FACP, FACE**

**Bibliography: (ORCID  # 0000 0003 2497 8401)**

Names of mentees are underlined throughout the bibliography section

\*\* currently most influential papers are noted with double asterisks

### **Original, Peer-Reviewed Articles**

1. **Safer JD**, Langlois MF, Cohen R, Monden T, John-Hope D, Madura J, Hollenberg AN, Wondisford FE. Isoform variable action among thyroid hormone receptor mutants provides insight into pituitary resistance to thyroid hormone. *Mol Endocrinol* 1997;11(1):16-26. PMID 8994184
2. Langlois MF, Zanger K, Monden T, **Safer JD**, Hollenberg AN, Wondisford FE. A unique role of the beta-2 thyroid hormone receptor isoform in negative regulation by thyroid hormone - mapping of a novel amino-terminal domain important for ligand-independent activation. *J Biol Chem* 1997;272(40):24927-24933. PMID 9312095
3. **Safer JD**, Cohen RN, Hollenberg AN, Wondisford, FE. Defective release of corepressor by hinge mutants of the thyroid hormone receptor found in patients with resistance to thyroid hormone. *J Biol Chem* 1998;273(46):30175-30182. PMID 9804773
4. **Safer JD**, O'Connor MG, Colan SD, Srinivasan S, Tollin SR, Wondisford FE. The TR-beta gene mutation R383H is associated with isolated central resistance to thyroid hormone. *J Clin Endocrinol Metab* 1999;84(9):3099-3109. PMID 10487671
5. **Safer JD**, Fraser LM, Ray S, Holick MF. Topically applied triiodothyronine stimulates epidermal proliferation, dermal thickening, and hair growth in mice and rats. *Thyroid* 2001;11(8):717-724. PMID 11525263
6. Tangpricha V, Chen BJ, Swan NC, Sweeney AT, de las Morenas A, **Safer JD**. Twenty-one gauge needles provide more cellular samples than twenty-five gauge needles in fine needle aspiration biopsy of the thyroid. *Thyroid* 2001;11(10):973-976. PMID 11716046
7. **Safer JD**, Crawford TM, Fraser LM, Ho M, Ray S, Chen TC, Persons K, Holick MF. Thyroid hormone action on skin: diverging effects of topical versus intraperitoneal administration. *Thyroid* 2003;13(2):159-165. PMID 12699590
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9. **Safer JD**, Crawford TM, Holick MF. A role for thyroid hormone in wound healing through keratin gene expression. *Endocrinology* 2004;145(5):2357-2361. PMID 14736740
10. **Safer JD**, Crawford TM, Holick MF. Topical thyroid hormone accelerates wound healing in mice. *Endocrinology* 2005;146(10):4425-4430. PMID 15976059



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12. **Safer JD**, Ray S, Holick MF. A topical PTH/PTHrP receptor antagonist stimulates hair growth in mice. *Endocrinology* 2007;148(3):1167-1170. PMID 17170098
13. **Safer JD**, Persons K, Holick MF. A thyroid hormone deiodinase inhibitor can decrease cutaneous cell proliferation in vitro. *Thyroid* 2009;19(2):181-185. PMID 19191748
14. Ariza MA, Loken WM, Pearce EN, **Safer JD**. Male sex, African-American race/ethnicity, and T3 levels at diagnosis are predictors of weight gain following medication and radioactive iodine treatment for hyperthyroidism. *Endocr Pract* 2010;16(4):609-616. PMID 20350916
15. Abraham TM, de las Morenas A, Lee SL, **Safer JD**. In thyroid fine needle aspiration, use of bedside-prepared slides significantly increased diagnostic adequacy and specimen cellularity relative to solution-based samples. *Thyroid* 2011;21(3):237-242. PMID 21323589
16. Huang MP, Rodgers KA, O'Mara R, Mehta M, Abuzahra HS, Tannenbaum AD, Persons K, Holick MF, **Safer JD**. The thyroid hormone degrading Dio3 is the primary deiodinase active in murine epidermis. *Thyroid* 2011;21(11):1263-1268. PMID 21936673
17. Torraldo G, Bhasin S, Bakhit M, Guo W, Serra C, S, **Safer JD**, Bhawan J, Jasuja R. Topical androgen antagonism promotes cutaneous wound healing without systemic androgen deprivation by blocking beta-catenin nuclear translocation and cross-talk with TGF-beta signaling in keratinocytes. *Wound Repair Regen* 2012;20:61-73. PMID 22276587
- 18\*\*. **Safer JD**, Pearce EN. A simple curriculum content change increased medical student comfort with transgender medicine. *Endocr Pract* 2013;19(4):633-637. PMID 23425656  
- First ever demonstration of the effectiveness of an evidence-based approach to teaching transgender medicine to medical students
19. Thomas DD, **Safer JD**. A simple intervention raised resident-physician willingness to assist transgender patients seeking hormone therapy. *Endocr Pract* 2015;21(10):1134-42. PMID 26151424
20. Mundluru SN, **Safer JD**, Larson, AR. Unforeseen ethical challenges for isotretinoin treatment in transgender patients. *Int J of Womens Dermatol* 2016;2(2):46-48. PMID 28492004
21. Eriksson SES, **Safer JD**. Evidence-based curricular content improves student knowledge and changes attitudes towards transgender medicine. *Endocr Pract* 2016;22(7):837-841. PMID 27042742
22. Chan B, Skocylas R, **Safer JD**. Gaps in transgender medicine content identified among Canadian medical school curricula. *Transgender Health* 2016;1(1):142-150. PMID 29159305
23. Myers SC, **Safer JD**. Increased rates of smoking cessation observed among transgender women receiving hormone treatment. *Endocr Pract* 2017;23(1):32-36. PMID 27682351

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31. Bisson JR, Chan KJ, **Safer JD**. Prolactin levels do not rise among transgender women treated with estradiol and spironolactone. *Endocr Pract* 2018; 24(7):646-651. PMID 29708436
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**Dissemination Through Lay Press and Social Media**

**Mass Audience Programming:**

“Transgender Health AMA” Reddit. July 24, 2017. Expert responses to questions about transgender medicine. [https://www.reddit.com/r/science/comments/6p7uhb/transgender\\_health\\_ama\\_series\\_im\\_joshua\\_safer/](https://www.reddit.com/r/science/comments/6p7uhb/transgender_health_ama_series_im_joshua_safer/) over 150,000 views, over 4200 comments

“Gender Revolution with Katie Couric” National Geographic Channel. Couric, Katie. February 6, 2017. Extended interview with Katie Couric threaded into a 2-hour television special. Trailer: <https://www.youtube.com/watch?v=y93MsRaC6Zw> broadcast in 143 countries

“Is gender identity biologically hard-wired?” Judd, Jackie. PBS NewsHour. May 13, 2015. Extended interview for Jackie Judd <http://www.pbs.org/newshour/bb/biology-gender-identity-children/> estimated just over 1,000,000 viewers per Nielsen

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<b>Innovation</b>	<b>Significance/impact</b>
<i>Development and leadership of the Transgender Medicine Clinical Center, Mount Sinai Health System and Icahn School of Medicine at Mount Sinai</i>	<ul style="list-style-type: none"> <li>• The Center for Transgender Medicine and Surgery at Mount Sinai is the first comprehensive center for transgender medical care in New York and the most comprehensive program in the United States</li> <li>• The Center is one of only several such centers in North America that are housed in academic teaching hospitals where care can be integrated</li> <li>• The Center is a model for such care delivery in North America.</li> </ul>
<i>Establishment, development, and leadership of the Transgender Medicine Clinical Center at Boston Medical Center</i>	<ul style="list-style-type: none"> <li>• The Center for Transgender Medicine and Surgery at BMC is the first comprehensive center for transgender medical care in New England</li> <li>• The Center is one of only several such centers in North America that are housed in academic teaching hospitals where care can be integrated</li> <li>• The Center is a model for such care delivery in North America.</li> </ul>
<i>Development and dissemination of the seminal reviews that are most widely cited in the lay press that explain the concept that gender identity is a biological phenomenon (see bibliography section above, e.g. PMID: 25667367).</i>	<ul style="list-style-type: none"> <li>• The concept that gender identity is a biological phenomenon has been a key component of the recent culture change in favor of mainstream medical care for transgender individuals (see media section above)</li> </ul>
<i>Development and dissemination of new and influential curricular content to teach the biology of gender identity in conventional medical education (see curriculum section above)</i>	<p>The teaching of evidence-based approaches to transgender medical care to:</p> <ul style="list-style-type: none"> <li>• Medical students (see bibliography section above, e.g. PMID 23425656 and PMID 27042742)</li> <li>• Physician trainees (see bibliography section above, e.g. PMID 26151424)</li> <li>• Practicing physicians (see invited lectures section above) serves as a crucial component to the gained credence given to care for transgender individuals in conventional medical settings.</li> </ul>
<i>Development and dissemination of seminal reviews supporting the safety of transgender hormone treatment regimens (see invited lectures section above)</i>	<ul style="list-style-type: none"> <li>• Once mainstream medical providers learn of the biology underlying gender identity, their biggest concern is the relative safety of the medical interventions relative to the benefit.</li> <li>• The development and dissemination of the seminal reviews and lectures supporting the safety of current treatment regimens serves as a further crucial component to the culture change among conventional medical providers in favor of routine medical care for transgender individuals</li> </ul>

IN THE UNITED STATES DISTRICT COURT  
FOR THE SOUTHERN DISTRICT OF WEST VIRGINIA  
CHARLESTON DIVISION

B.P.J. by her next friend and mother, HEATHER JACKSON,

*Plaintiff,*

v.

WEST VIRGINIA STATE BOARD OF EDUCATION, HARRISON COUNTY BOARD OF EDUCATION, WEST VIRGINIA SECONDARY SCHOOL ACTIVITIES COMMISSION, W. CLAYTON BURCH in his official capacity as State Superintendent, DORA STUTLER in her official capacity as Harrison County Superintendent, and THE STATE OF WEST VIRGINIA,

*Defendants,*

and

LAINEY ARMISTEAD,

*Defendant-Intervenor.*

Civil Action No. 2:21-cv-00316

Hon. Joseph R. Goodwin

**REBUTTAL EXPERT REPORT AND DECLARATION OF  
JOSHUA D. SAFER, MD, FACP, FACE**

1. I have been retained by counsel for Plaintiff as an expert in connection with the above-captioned litigation.

2. My background and credentials are set forth in my previous expert report and declaration dated January 21, 2022 (“Safer Rep.”). I incorporate all conclusions and facts set forth in my previously submitted report into this rebuttal report as if fully stated herein.

3. I reviewed the expert reports of Gregory A. Brown, Ph.D. and Chad. A. Carlson, M.D., submitted in this case on February 23, 2022 (“Brown Rep.” and “Carlson Rep.”). I provide

this rebuttal report to explain the overall problems with the conclusions they draw and provide data showing why such conclusions are in error. I reserve the right to supplement my opinions in response to new information if necessary as the case proceeds.

### **SUMMARY OF OPINIONS**

4. In this rebuttal report, I address four topics raised in the expert reports of Dr. Brown and Dr. Carlson that are related to this lawsuit.<sup>1</sup>

- a. H.B. 3293's definition of "biological sex" as "reproductive biology and genetics at birth" is inaccurate and misleading. Especially in the context of transgender people or people with intersex characteristics, "biological sex" includes all the biological components of sex, including hormones and the biological underpinnings of gender identity.
- b. Circulating testosterone is the primary known biological driver of average differences in athletic performance, not "reproductive biology and genetics at birth." Differences in athletic performance between cisgender boys and girls before puberty are minor and cannot reliably be attributed to biological factors instead of social ones.
- c. Concerns about athletic advantage do not provide a scientific basis for H.B. 3293's categorical ban of transgender girls and women from all girls' teams sponsored by

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<sup>1</sup> It is my understanding that H.B. 3293 seeks to exclude girls and women who are transgender if they are a student at a secondary school or institution of higher education in West Virginia. As a result, several of the studies discussed and conclusions reached by Dr. Brown and Dr. Carlson in their reports are unrelated to H.B. 3293 (e.g., discussions regarding elite athletes, such as Olympians). Although there are several issues with Dr. Carlson's and Dr. Brown's statements regarding these inapposite studies and the conclusions they reach are nothing more than conjecture, given that these studies are not related to H.B. 3293, I do not exhaustively respond to each inaccurate or misleading statement here.

a secondary school or institution of higher education in West Virginia. There is no basis to expect that transgender girls who receive puberty delaying medication followed by gender affirming hormones would have an athletic advantage, and Dr. Brown's sweeping arguments about an athletic advantage for transgender women who suppress testosterone after puberty are based on supposition and conjecture, not evidence.

- d. Concerns about safety also do not provide a scientific basis for H.B. 3293's categorical ban of transgender girls and women from all girls' teams sponsored by a secondary school or institution of higher education in West Virginia. Dr. Carlson's speculative arguments about safety risks apply only to contact and collision sports, and actual safety concerns can be addressed through even-handed rules instead of discriminating based on transgender status.

#### **H.B. 3293'S DEFINITION OF "BIOLOGICAL SEX" IS INACCURATE AND MISLEADING**

5. Ignoring all the other biological components of sex, H.B. 3293 defines "biological sex" exclusively as "an individual's physical form as a male or female based solely on the individual's reproductive biology and genetics at birth." As I explained in my initial report, however, the phrase "biological sex" is an imprecise term that can cause confusion, especially in the context of transgender people and people with intersex characteristics. A person's sex encompasses the sum of several different biological attributes, including sex chromosomes, certain genes, gonads, sex hormone levels, internal and external genitalia, other secondary sex characteristics, and the biological underpinnings of gender identity. Those attributes are not always aligned in the same direction. *See Hembree WC, et al. Endocrine Treatment of Gender-Dysphoria/Gender Incongruent Persons: An Endocrine Society Clinical Practice Guideline. J Clin*

Endocrinol Metab 2017; 102:3869–3903 (“Endocrine Society Guidelines 2017”) at 3875; Safer JD, Tangpricha V. *Care of Transgender Persons*. N Engl J Med 2019; 381:2451-2460 (“N Engl J Med 2019”).

6. In response to my initial report, Dr. Brown states that sex is rooted in biology. (Brown Rep. ¶¶ 1-3). I agree. But the fact that sex is rooted in biology does not mean that sex is defined exclusively by genetics or reproductive biology at birth. As reflected in the same sources cited by Dr. Brown, dimorphous sexual characteristics in men and women are produced by a combination of genes, prenatal androgen exposure to sex hormones, epigenetics and other environmental factors. Bhargava, A. et al. *Considering Sex as a Biological Variable in Basic and Clinical Studies: An Endocrine Society Scientific Statement*. Endocr Rev. 2021; 42:219-258 (“Bhargava 2021”) at 221-228; N Engl J Med 2019; Safer JD, Tangpricha V. *Care of the Transgender Patient*. Ann Intern Med 2019; 171: ITC1-ITC16 (“Ann Intern Med 2019”).

7. In addition, although the precise biological causes of gender identity are unknown, gender identity itself has biological underpinnings, possibly as a result of variations in prenatal exposure to sex hormones, gene sequences, epigenetics, or a combination of factors. And when transgender people receive puberty-delaying treatment and gender-affirming hormones, they develop other biological and physiological sex characteristics that align with their gender identity and not with their sex recorded at birth. Endocrine Society Guidelines 2017 at 3874-75, 3888-89; Bhargava 2021 at 227; N Engl J Med 2019; Ann Intern Med 2019.

#### **THE PRIMARY KNOWN BIOLOGICAL DRIVER OF AVERAGE DIFFERENCES IN ATHLETIC PERFORMANCE IS CIRCULATING TESTOSTERONE**

8. As explained in my previous report, the primary known biological cause of average differences in athletic performance between non-transgender men as a group and non-transgender women as a group is circulating testosterone—not “reproductive biology and genetics at birth.”

The existing “evidence makes it highly likely that the sex difference in circulating testosterone of adults explains most, if not all, of the sex differences in sporting performance.” *See* Handelsman DJ, et al. *Circulating Testosterone as the Hormonal Basis of Sex Differences in Athletic Performance*. *Endocrine Reviews* 2018; 39:803-829 (“Handelsman 2018”) at 823 (summarizing evidence rejecting hypothesis that physiological characteristics are driven by Y chromosome).<sup>2</sup>

9. Neither Dr. Brown nor Dr. Carlson disputes that circulating testosterone is the largest biological driver of average differences in athletic performance (Brown Rep. ¶ 114; Carlson Rep. ¶ 16), but Dr. Brown contends that cisgender boys and transgender girls have at least some biological advantages in athletic performance over cisgender girls even before puberty. In support, Dr. Brown relies primarily on demographic data from physical fitness tests or athletics in which prepubertal cisgender boys have outperformed prepubertal cisgender girls. But there is no reliable basis for Dr. Brown to attribute those differences to biology instead of social factors such as greater societal encouragement of athleticism in boys, greater opportunities for boys to play sports, or different preferences of the boys and girls surveyed. *See* Handelsman DJ. *Sex Differences in Athletic Performance Emerge Coinciding with the Onset of Male Puberty*. *Clin Endocrinol (Oxf)*. 2017;87(1):68–72 (“Handelsman 2017”).

10. Dr. Brown also points out that there are physiological differences between cisgender boys and cisgender girls before puberty, largely as a result of exposure to hormones in

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<sup>2</sup> Dr. Brown cites to Handelsman in his report but continually misrepresents Handelsman’s findings, notably omitting key portions of the reference. For example, Dr. Brown writes, “[t]here is convincing evidence that the sex differences in muscle mass and strength are sufficient to account for the increased strength and aerobic performance of men compared with women and is in keeping with the differences in world records between the sexes.” (Brown Rep. ¶ 55, citing Handelsman 2018). But Dr. Brown omits the following sentence which explains that “[t]he basis for the sex difference in muscle mass and strength *is the sex difference in circulating testosterone*.” (Handelsman 2018 at 816) (emphasis added).



utero or during infancy. (Brown Rep. ¶ 71 (citing McManus, A. and N. Armstrong, *Physiology of Elite Young Female Athletes*. J Med & Sport Sci 2011; 56:23-46)). But the article cited by Dr. Brown never draws a causal connection between those physiological differences and any differences in athletic performance between cisgender prepubertal boys and girls. Throughout the article, McManus and Armstrong acknowledge that differences between cisgender prepubertal boys and girls in various measurements are minimal or nonexistent. *See Id.* at 24 (“Prior to 11 years of age differences in average speed are minimal”); at 27 (“small sex difference in fat mass and percent body fat are evident from mid-childhood”); at 29 (“bone characteristics differ little between boys and girls prior to puberty”); at 32 (“There is little evidence that prior to puberty pulmonary structure or function limits oxygen uptake”); at 34 (“[N]o sex differences in arterial compliance have been noted in pre- and early- pubertal children”).

11. There is also no basis to confidently predict that patterns about the athletic performance of prepubertal cisgender boys will be the same for prepubertal transgender girls. To the extent that differences in performance are influenced by social influences, biases, or preferences, the experience of transgender girls might be more similar to the experience of cisgender girls than to cisgender boys. And to the extent that differences in performance are shown to have some connection to epigenetics or exposure to sex hormones in utero or infancy, we do not know whether those biological factors are always equally true for transgender girls in light of scientific studies documenting potential biological underpinnings of gender identity.

12. For example, studies have shown that even before initiating hormone therapy transgender women tend to have lower bone density than cisgender men. Van Caenegem E, Taes Y, Wierckx K, Vandewalle S, Toye K, Kaufman JM, et al. *Low Bone Mass is Prevalent in Male-to-Female Transsexual Persons Before the Start of Cross-Sex Hormonal Therapy and*

*Gonadectomy*. Bone 2013;54(1):92–7. We do not know whether those differences are explained by social factors or biological ones. But regardless of the cause, it cannot be assumed that the physiological characteristic of cisgender boys and men will automatically apply to transgender girls and women even in the absence of gender affirming hormones.

**CONCERNS ABOUT ATHLETIC ADVANTAGE  
DO NOT PROVIDE A SCIENTIFIC BASIS FOR H.B. 3293**

13. In my previous report, I explained why “[t]here is no medical justification for West Virginia’s categorical exclusion of girls who are transgender from participating in scholastic athletics on the same teams as other girls.” (Safer Rep. ¶ 46). By excluding girls who are transgender based on “biological sex,” and defining that term to mean “reproductive biology and genetics at birth,” West Virginia categorically prevents girls who are transgender from participating on all girls’ teams sponsored by a secondary school or institution of higher education in West Virginia regardless of the particular sport at issue and regardless of whether they are pre-pubertal, receiving puberty blockers, or receiving gender-affirming hormone therapy. That sweeping and categorical ban is dramatically out of step with even the most stringent policies of elite international athletic competitions for girls and women who are transgender.

14. To support this sweeping ban, Dr. Brown makes a variety of claims that are either irrelevant or are based on speculation and inferences that are not supported by the data that we currently have.

15. As an initial matter, Dr. Brown provides no scientific support for excluding girls and women who are transgender and who had puberty blockers before endogenous puberty. To the contrary, even some of the most exclusionary policies cited by Dr. Brown allow transgender girls and women to participate if they did not experience endogenous puberty. *See* World Rugby Transgender Women’s Guidelines 2020 (“Transgender women who transitioned pre-puberty and

have not experienced the biological effects of testosterone during puberty and adolescence can play women's rugby").<sup>3</sup>

16. Dr. Brown contends that "there is no published scientific evidence that the administration of puberty blockers to males before puberty eliminates the pre-existing athletic advantage that prepubertal [transgender girls] have over prepubertal [cisgender] females." (Brown Rep. at 56). But as I explain above, there is no evidence that prepubertal transgender girls have any such pre-existing biological athletic advantages. *See supra* ¶¶ 9-12.

17. Dr. Brown's assertions also rest on a misunderstanding of the treatment of gender dysphoria. Indeed, Dr. Brown admits that his speculation about puberty blockers is outside his area of expertise. (Brown Rep. ¶ 110). Under current standards of care, transgender adolescents are eligible to receive puberty blockers when they reach Tanner 2—not Tanner 3—which is early enough to prevent endogenous puberty from taking place. *See* Endocrine Society Guidelines 2017 at 3869-3903. Following administration of puberty blockers, transgender girls and women will have also received gender-affirming care to allow them to go through puberty consistent with their female gender identity. As a result of a typically female puberty, these transgender girls and women will develop many of the same physiological and anatomical characteristics of cisgender girls and women, including bone size (Brown Rep. ¶¶ 46-48), skeletal structure (*id.* at ¶ 49), and "distinctive aspects of the female pelvis geometry [that] cut against athletic performance" (*id.* at ¶ 50). Thus, a transgender girl or women who received puberty blockers followed by gender-affirming hormones does not have the same physiology as a prepubertal cisgender boy.<sup>4</sup>

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<sup>3</sup> *See* <https://www.world.rugby/thegame/player-welfare/guidelines/transgender/women>

<sup>4</sup> Dr. Brown cites to a study measuring body composition among transgender people who received puberty delaying medication followed by gender affirming hormones. (Brown Rep. ¶¶ 112-13 (citing Klaver M, et al. *Early Hormonal Treatment Affects Body Composition and Body Shape in*

18. Dr. Brown also cannot point to data justifying H.B. 3293's exclusion of transgender girls and women who experience endogenous puberty and then lower their levels of circulating testosterone. As I explained in my original report, concerns about athletic competition among college students and adults are more attenuated for students in middle school and high school, where athletes' ages typically range from 11-18, with different athletes in different stages of pubertal development. Increased testosterone begins to affect athletic performance at the beginning of puberty, but those effects continue to increase each year of puberty until about age 18, with the full impact of puberty resulting from the cumulative effect of each year. As a result, a 14, 15, or 16-year old has experienced less cumulative impact from testosterone than a 17 or 18-year old.

19. But even with respect to college students, Dr. Brown's sweeping arguments are not supported by his data. There have been only two studies that examined the effects of gender-affirming hormone therapy on the athletic performance of transgender female athletes. (Safer Rep. ¶¶ 55-57). The first is a small study of eight adult long-distance runners showing that when women who are transgender have lowered circulating testosterone, their performance when compared to non-transgender women was proportionally the same as their performance had been before treatment relative to non-transgender men. Harper J. *Race Times for Transgender Athletes*. *Journal of Sporting Cultures and Identities* 2015; 6:1-9. The second is a retrospective study that reviewed military fitness test results, showing that two years of gender-affirming hormone therapy negated any advantage transgender women had over non-transgender women in performing push-ups and

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*Young Transgender Adolescents*. *J Sex Med* 2018; 15: 251-260)). This study confirms that the transgender women after treatment had body composition patterns that more closely resembled cisgender women than cisgender men (or cisgender prepubertal boys). The minimal remaining differences reported in some measurements are not large enough to plausibly confer a material athletic advantage, and those differences are likely attributable to the fact that the subjects do not appear to have started receiving treatments until ages 12.8 to 13.5 at the earliest. By contrast, the start of Tanner 2 for transgender girls usually begins at about age 11.5.

sit-ups, but did not completely negate transgender women's faster times in racing 1.5 miles. Roberts TA, et al. *Effect of gender affirming hormones on athletic performance in transwomen and transmen: implications for sporting organizations and legislators*. Br J Sports Med. 2020; 0:1–7. doi:10.1136/bjsports-2020-102329.

20. Neither of these studies provides enough data to support Dr. Brown's sweeping claim that transgender women who have lowered circulating testosterone have an advantage over cisgender women in all athletic events. To support that inference, Dr. Brown cites to a variety of studies of transgender women measuring discrete physiological characteristics such as muscle size or grip strength. (Brown Rep. ¶¶ 153-56). Dr. Brown predicts that if puberty-influenced characteristics like bone and muscle size are not completely reversed by testosterone suppression, then those characteristics will continue to provide an advantage for transgender women. But because changes in testosterone affect different parts of the body in different ways, we do not have enough information to confidently predict whether the combined effect of the changes will be an advantage or a disadvantage.

21. The study about military fitness tests (Roberts 2020) illustrates the point. Roberts TA, et al. *Br J Sports Med*. 2020; 0:1–7. After two years of suppressing testosterone any advantage that the transgender women had in performing push-ups or sit-ups was eliminated. But because the transgender women in the study weighed more than the cisgender women even after suppressing testosterone, the transgender women had to use more muscle strength to perform the same number of push-ups. In other words, the transgender women may have had more muscle strength, but that greater strength did not translate into an athletic advantage in a push-up contest. Because different sports require different types of physical performance, the existence and extent

of any performance advantage based on grip strength or leg-muscle size may vary from sport to sport and cannot support a categorical across-the-board rule.

22. Dr. Brown also refers to widely publicized anecdotes about isolated cases of transgender girls and women winning state championships in high school sports or NCAA championships in college. But transgender athletes and women have been competing in NCAA and secondary school athletics for many years at this point, and they remain dramatically underrepresented amongst champions. The occasional championships that have been widely publicized do not come close to constituting the rates one would expect if they won at rates that are proportional to their overall percentage of the population (which is approximately 1%).

**CONCERNS ABOUT SAFETY DO NOT PROVIDE  
A SCIENTIFIC BASIS FOR H.B. 3293**

23. Dr. Carlson argues in his report that allowing transgender girls and women to participate on women's teams "creates significant additional risk of injury for the [cisgender] female participants competing alongside these transgender athletes." (Carlson Rep. at 2).

24. Even on their own terms, none of Dr. Carlson's arguments support H.B. 3293's categorical ban of all girls who are transgender from all girls' sports teams. Dr. Carlson's safety arguments relate solely to contact and collision sports and to physical characteristics developed during puberty. By contrast, H.B. 3293 applies even to non-contact sports like cross-country, and it applies even to transgender girls and women who have never experienced endogenous puberty as a result of hormone blocking medication and gender-affirming hormones.<sup>5</sup>

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<sup>5</sup> The declaration Dr. Carlson submitted earlier in this case dealt exclusively with physiological characteristics acquired during puberty. In his more recent report, Dr. Carlson vaguely asserts that "the conclusions of this paper can apply to a certain extent before . . . puberty" (Carlson Rep. at 56) but he does not attempt to argue that the relatively small differences in performance or physiology observed before puberty come anywhere close to creating an actual safety risk.

25. To the extent that Dr. Carlson's arguments related to some applications of H.B. 3293, those arguments are based on stereotypes and suppositions, not actual evidence that transgender girls and women pose a safety threat. Although transgender girls and women have been playing in NCAA and secondary school sports for at least the past 10 years, Dr. Carlson does not identify any instance in which a cisgender girl or woman has actually been injured as a result of competing against a girl or woman who is transgender. Rather, he theorizes that a greater number of people are identifying as transgender and that sporting organizations should adopt restrictions preemptively in response to what he characterizes as "this rapid social change." (Carlson Rep. at 59).

26. Dr. Carlson repeats the same mistakes as Dr. Brown by drawing unsubstantiated inferences about transgender women based on data from cisgender men and from measurements of discrete characteristics. As discussed above, we do not currently have sufficient information to predict how all the physiological effects of testosterone suppression will interact in combination each other or whether they will produce the same kinetic energy as typically produced by cisgender men. For instance, having larger bones without corresponding levels of testosterone and muscle mass would mean that a runner has a bigger body to propel with less power to propel it.

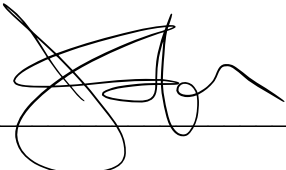
27. Dr. Carlson does not offer a cogent explanation for why alleged safety concerns based on average differences in size and strength should be addressed with an across-the-board exclusion of transgender women as opposed to tailored, non-discriminatory policies. Like Dr. Brown's arguments about athletic advantage, Dr. Carlson's arguments about safety must be considered in the context of all the intra-sex variations in height, weight, and muscle mass that pose comparable safety risks. Athletic organizations can protect athlete safety for women without drawing categorical lines based on transgender status.

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### CONCLUSION

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed on 3/10/2022

  
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Joshua D. Safer, MD, FACP, FACE